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SR 87 PD&E Connector Preliminary Traffic Report

ATEC PM: Fadi Emil Nassar, PhD, P.E., PTOE

SR 87 CONNECTOR

ATEC
Advanced Transportation Engineering Consultants

METRIC ENGINEERING

STATE OF FLORIDA • DEPARTMENT OF TRANSPORTATION

Engineer's Certification

I, Fadi Emil Nassar, P.E., certify that I currently hold an active Professional Engineer's License in the State of Florida and I am competent through education and experience to provide engineering services in the traffic engineering discipline contained in this report. I further certify that this report was prepared by me or under my responsible charge as defined in Chapter 61G15-18.001 F.A.C. and that all statements, conclusions and recommendations made herein are true and correct to the best of my knowledge and ability.

PROJECT: SR 87 PD&E Connector Preliminary Traffic Report

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Fadi Emil Nassar, PhD, P.E., PTOE
P.E. 51448

Date_____

EXECUTIVE SUMMARY

Objectives:
Advanced Transportation Engineering Consultants (ATEC), a sub-consultant to Metric Engineering, was retained by the Florida Department of Transportation, District Three, to perform the transportation analysis for the SR 87 Connector PD&E Study. This preliminary traffic report examines the existing (2009) traffic conditions within the project preliminary area of influence (PAI) and evaluates the preliminary traffic impacts of six corridor alternatives to connect SR 87 South (SR 87S) with SR 87 North (SR 87N). The preliminary traffic analysis is performed for the design year 2035 using the draft North West Florida Regional Planning Model (NWFRPM).

Project Justification:
The justifications and main benefits of the SR 87 Connector are: (1) improving connectivity by providing a direct link between SR 87S serving the south end of Santa Rosa County and SR 87N serving the north section of the County, and also providing a direct connection between the Naval Air Station Whiting Field (NAS Whiting Field) and Eglin Air Force Base (Eglin AFB), (2) relieving the traffic congestion along US 90 by redistributing traffic to the new corridor and providing an alternate route to travelling along a congested portion of US 90 through historic downtown Milton, (3) significantly reducing evacuation time and improving evacuation capacity in Santa Rosa County by providing a direct route from the coastal area into north of the County and Alabama without having to travel through downtown Milton, (4) providing an opportunity for greater bicycle and sidewalk connectivity in the County, and (5) accommodating the projected increase in transportation demand due to anticipated population and employment growth.

Study Area Characteristics:
The characteristics of the impacted area are shown below:

- Public or private schools: 19 public and three private schools
- Two military bases: Naval Air Station Whiting Field and Eglin Air Force Base
- Seven industrial parks: Two industrial parks have been completed and one is scheduled for completion in 2011. The remaining four industrial parks are currently undeveloped.
- Existing and future land uses: The predominant land uses in both existing and future land use maps are City and Agriculture. The future land use map shows a number of publicly owned properties that will be converted to industrial use. These properties are located on the north side of US 90 close to SR 87S and the east side of the NAS Whiting Field.
- NAS Whiting Field Joint Land Use Study: The study evaluated the existing and future land use conflicts between airfield operations and the civilian population's expectations for living and working in the vicinity of NAS Whiting Field. The non-military lands in the vicinity of NAS Whiting Field were designated as Clear Zone/Accident Potential Zone, or as being located within a Noise Zone. The study included an inventory of population and housing within the Clear Zone/Accident Potential Zone and the Noise Zone.

Recommendations for the maximum residential density within the various zoning classifications were proposed and the benefits of clustering residential homes away from the airfield boundaries and the noise zones were discussed. The report recommended pursuing funds to acquire lands abutting NAS Whiting Field and to promote economic development of the land near the southeast corner of NAS Whiting Field.

- Roadway functional classification: The roadway network consists of interstate roadways, arterials, collectors, and local roadways, mostly classified as urban roadways.

- Access management classification: The access management classifications for the study area roadways are the following: I-10 (Access Class 1), US 90 (Access Classes 4 to 6), SR 87N/Stewart Street (Access Classes 3 to 6), SR 89/Dogwood Drive (Access Classes 3 to 5), and Avalon Boulevard/SR 281 (Access Class 4).

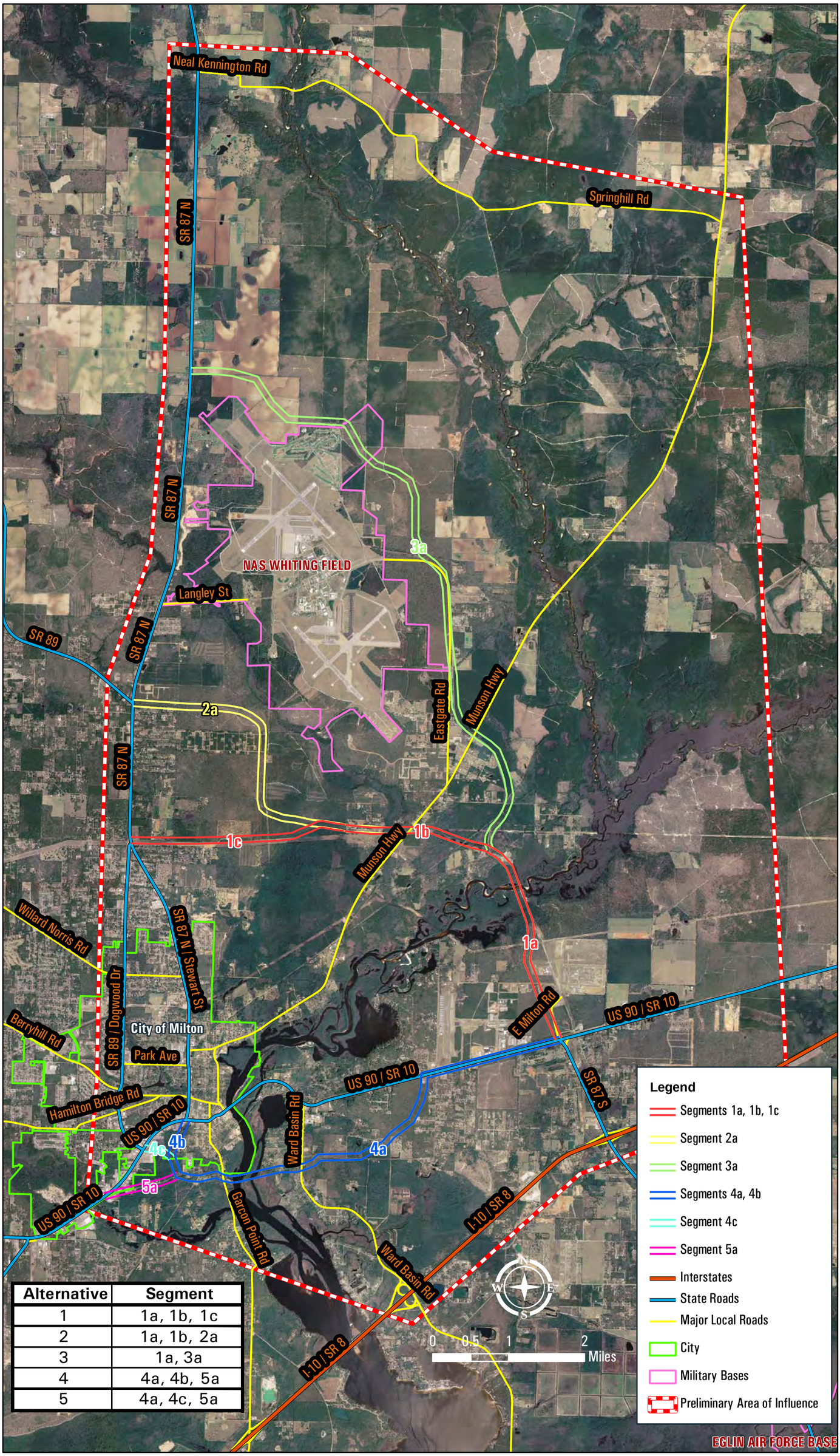
- Public transit: There is no existing public transit service. One new and fully funded bus service will be launched by the end of 2010. Buses will run along US 90 from the intersection of Nine Mile Rd/University Parkway in Escambia County to one mile east of the intersection of US 90 and SR 87S in Santa Rosa County. This bus service will connect low-income residential areas to the industrial parks in East Milton and the commercial/retail jobs along the US 90 corridor.

- Bicycle/Pedestrian Facilities: There are three trails and five roadway segments with bicycle lanes or paved shoulders.

- Truck Routes and Railroads: The major truck routes consist of I-10, US 90, and SR 87. CSX Transportation provides a train freight service.

Alternative Corridors:
Five corridor alternatives for SR 87 Connector, in addition to the No Build alternative, were evaluated for the design year 2035. The new corridor is anticipated to be a two-lane facility with right-of-way for a future four-lane divided facility. Therefore, both the two-lane undivided and four-lane divided roadway configurations were evaluated for each new corridor. These five corridors are depicted in **Figure ES-1** and have the following characteristics:

- No-Build Alternative: The No-build alternative assumes that the SR 87 Connector will not be built.



Alternative	Segment
1	1a, 1b, 1c
2	1a, 1b, 2a
3	1a, 3a
4	4a, 4b, 5a
5	4a, 4c, 5a

Figure ES-1: Proposed Alternatives

- Alternative 1/Corridor 1: Corridor 1 consists of a new corridor which extends north from the intersection of US 90 and SR 87S and crosses the river in proximity of the existing eastern power easement crossing. It then runs parallel or adjacent to the power easement to finally connect with SR 87N in proximity of the split between SR 87N and SR 89, utilizing the Manning Road right-of-way. Corridor 1 consists of Segments 1a, 1b and 1c and is approximately 6.5 miles in length. Corridor 1 layout is shown in **Figure ES-1**.

- Alternative 2/Corridor 2: Similar to Corridor 1, Corridor 2 extends north from the intersection of US 90 and SR 87S and crosses the river in proximity of the existing eastern power easement crossing. Once across the river it runs slightly north of Corridor 1c, and runs adjacent to the Clear Water Creek environmental lands, where it then heads west to connect with SR 87N in proximity of the northern split of SR 87N and SR 89. Corridor 2 consists of Segments 1a, 1b and 2a and is roughly 7.2 miles in length. Corridor 2 layout is shown in **Figure ES-1**.

- Alternative 3/Corridor 3: Similar to Corridors 1 and 2, Corridor 3 extends north from the intersection of US 90 and SR 87S and crosses the river to the east of the existing power easement crossing. The corridor proceeds north on the east side of Whiting Field possibly utilizing portions of the Pat Brown Road's right-of-way. North of Whiting Field, the corridor traverses a narrow gap between the Nature Conservancy/Florida Forever Lands and Whiting Field and then rejoins with SR 87N north of Whiting Field and south of Southridge Road. Corridor 3 consists of Segments 1a and 3a and is roughly 10.5 miles in length. Corridor 3 layout is shown in **Figure ES-1**.

- Alternative 4/Corridor 4: Corridor 4 west of SR 87S lies mostly within the existing US 90 right-of-way for a distance of about 1.6 miles then uses a new separate right of way and requires a new river crossing between Bagdad and Milton. The shared segment between US 90 and SR 87 will be widened to 4 lanes within the exiting right of way. The new SR 87 road reconnects with SR 87N at the intersection of US 90 and SR 87N. The western end of this corridor near SR 87N shares the right-of-way of the Blackwater Heritage Trail and incorporates a trail into the roadways cross section. Except for the shared segment along US 90, the corridor is planned as a two-lane undivided roadway or a four-lane divided roadway. Corridor 4 consists of Segments 4a and 4b and is approximately 5.0 miles in length. Please note that Segment 5a could be added to Corridor 4 as a spur connection for additional connectivity. Corridor 4 layout is shown in **Figure ES-1**.

- Alternative 5/Corridor 5: Similar to Corridor 4, Corridor 5 requires a new river crossing between Bagdad and Milton. This southern corridor generally heads west from SR 87S using a portion of the US 90 right-of-way that can be widened to a 4-lane roadway segment, and reconnects with SR 89 at the intersection of US 90 and SR 89. Except for the shared portion of the US 90 that will be widened to 4 lanes, SR 87 connector is planned as a two-lane undivided roadway with sufficient right of way to be widened to 4 lanes if needed in the future. Corridor 5 consists of Segments 4a and 4b and is approximately 5.0 miles in length. Please note that Segment 5a could be added to Corridor 5 as a spur connection for additional connectivity. Corridor 5 layout is shown in **Figure ES-1**.

Congestion Management Process Plan:

The Congestion Management Process Plan, prepared by the Florida-Alabama TPO and adopted in December 2009, identified the following four segments within or near the study to be deficient either presently or by 2018:

- US 90 from SR 281/Avalon Boulevard to SR 87N/Stewart Street: Congested starting from the year 2018
- US 90 from SR 87N/Stewart Street to Airport Road: Congested starting from the year 2013
- SR 281/Avalon Boulevard from I-10 to US 90: Presently congested
- CR 184 A/Berryhill Road from CR 197/Chumuckla Highway to SR 89: Presently congested

Traffic Volumes:
Existing (2009) Average Annual Daily Traffic (AADT) volumes and latest roadway characteristics were obtained from the FDOT's 2009 Florida Traffic Information (FTI) & Florida Highway Data (FHD) DVD for 41 FDOT count stations located within or near the study area. The project traffic for the design year (2035) was developed using the draft 2035 Cost Feasible NWFRPM.

Preliminary Analysis of Traffic Conditions:
The traffic analysis of existing conditions (2009) revealed that daily LOS for most of the roadway segments were currently in the range of A to D, except for four roadway segments located on US 90 and SR 281/Avalon Boulevard. These segments are the following:

- US 90: from Glover Lane to SR 89
- US 90: from SR 87N/Stewart Street to Canal Street
- US 90: from Broad Street/Willing Street to Johnson Road/Milton Trail
- SR 281/Avalon Boulevard: from I-10 to US 90

The traffic analysis for the design year (2035) was performed for the five corridor alternatives in addition to the No-Build alternative for both the two-lane undivided and four-lane divided roadway configurations of the new corridors. The new SR 87 Connector corridor will attract significant traffic, changing traffic patterns in the study area, and partially relieving traffic congestion on US 90 within the study area.

Two-lane undivided roadway configuration:
Compared with the No-Build alternative, all five Build alternatives will improve the failing segments of US 90 between SR 87S and Ward Basin Road to a LOS D or better. The failing segments between Ward Basin Road and Broad Street/Willing Street will decrease by 20% to 30% though these segments will remain operating at a failing LOS. The failing segments on US 90 west of Broad Street/Willing Street will experience an insignificant decrease in traffic volumes and will also remain operating at a failing LOS. In addition, traffic volumes will decrease at some constrained and failing roadway segments within Milton downtown area, even though these roadways will remain operating at a failing LOS.
It should be noted that for the regional traffic on SR 87 with no destination in Milton, Corridors 1-3 provide 2.0 to 3.5 miles shorter trip lengths than Corridors 4-5, and save 6 to 8 minutes on each one-way trip assuming no congestion in Downtown Milton. Evacuation time will be significantly shorter due to expected congestion in historic downtown Milton and the constrained roadway capacity. Trucks travel time savings are even greater due to slower speeds. Therefore, the additional benefits of Corridors 1-3 are to reduce traffic in downtown Milton which relieves

congestion and improves safety. The preliminary operational analysis results are summarized in **Table ES-1**.

Table ES-1: List of Roadway Segments with Daily LOS E or F (2035) (2-lane Undivided Configuration)

Roadway		Existing					Year 2035											
							No-Build		Alt 1		Alt 2		Alt 3		Alt 4		Alt 5	
From	To	Number of Lanes	Adpoted LOS	Capacity (LOS 2007 Tables)	Daily LOS	v/C	Daily LOS	v/C	Daily LOS	v/C	Daily LOS	v/C	Daily LOS	v/C	Daily LOS	v/C	Daily LOS	v/C
US 90																		
SR 281/Avalon Blvd	Parkmore Plaza	4	D	32,700	N/A		F	1.35	F	1.31	F	1.31	F	1.31	F	1.35	F	1.33
Parkmore Plaza	Glover Ln	4	D	32,700			F	1.38	F	1.36	F	1.36	F	1.35	F	1.39	F	1.38
Glover Ln	SR 89	4	D	32,700	F	1.12	E	1.02	E	1.04	E	1.06	E	1.04	D	0.96	D	0.95
SR 87N/Stewart Street	Canal Street	2	D	16,400	F	1.10	D	0.95	D	0.88	D	0.91	D	0.85	C	0.46	C	0.70
Broad St/Willing St	Johnson Rd/Milton Tr	2	D	16,400	F	1.04	F	1.80	F	1.43	F	1.43	F	1.49	F	1.34	F	1.28
Johnson Rd/Milton Tr	Dale St/Ward Basin Rd	2	D	16,400	N/A		F	1.65	F	1.28	F	1.28	F	1.34	F	1.19	F	1.13
Dale St/Ward Basin Rd	Airport Rd	2	D	16,400	C	0.79	E	1.01	C	0.67	C	0.70	C	0.82	D	0.95	D	0.88
Airport Rd	Industrial Blvd	2	D	16,400	N/A		F	1.10	C	0.76	C	0.79	D	0.88	B	0.59	B	0.60
Industrial Blvd	SR 87S	2	D	16,400	C	0.73	E	1.01	C	0.73	C	0.76	D	0.85	B	0.55	B	0.58
SR 281/Avalon Blvd																		
I-10	US 90	2	D	16,400	F	1.25	F	1.10	E	1.01	F	1.04	E	1.01	E	1.01	D	0.98
CR 191/Henry St																		
South of US 90	US 90	2	D	10,000	D	0.7	E	1.15	E	1.05	E	1.05	E	1.05	C	0.25	D	0.84
CR 191/Broad St/Willing St																		
US 90	Berryhill Rd	2	D	10,000	D	0.8	F	1.75	E	1.15	E	1.20	F	1.30	F	1.60	F	1.60
Alt 4																		
CR 191/Henry St	Old US 90	2	D	21,300	N/A		N/A								E	1.08	N/A	
Alt 5																		
CR 191/Henry St	Old US 90	2	D	21,300	N/A		N/A										D	0.92

Legend

X Acceptable LOS

X Unacceptable LOS

Four-lane Undivided Roadway with the Capacity of 33,900 for Alts 4 and 5

Four-lane divided roadway configuration:

Except for Corridors 4 and 5, the project traffic volumes of each segment for all five Build alternatives were almost the same as those with the two-lane undivided roadway configuration for the new corridors. Therefore, the conclusions for the new corridors with the two-lane undivided roadway configuration are also applicable to the four-lane divided roadway configuration. The preliminary operational analysis results are summarized in **Table ES-2**. However, Corridors 4 and 5 now attract slightly more traffic. **Table ES-3** shows the comparison of the project traffic volumes between the two-lane undivided and four-lane divided roadway configurations for the five Build corridors.

Table ES-2: List of Roadway Segments with Daily LOS E or F (2035) (4-lane Divided Configuration)

Roadway			Existing					Year 2035											
								No-Build		Alt 1		Alt 2		Alt 3		Alt 4		Alt 5	
From		To	Number of Lanes	Adpoted LOS	Capacity (LOS 2007 Tables)	Daily LOS	v/C	Daily LOS	v/C	Daily LOS	v/C	Daily LOS	v/C	Daily LOS	v/C	Daily LOS	v/C	Daily LOS	v/C
US 90																			
	SR 281/Avalon Blvd	Parkmore Plaza	4	D	32,700	N/A		F	1.35	F	1.31	F	1.30	F	1.31	F	1.36	F	1.35
	Parkmore Plaza	Glover Ln	4	D	32,700			F	1.38	F	1.36	F	1.36	F	1.36	F	1.42	F	1.41
	Glover Ln	SR 89	4	D	32,700	F	1.12	E	1.02	E	1.06	E	1.04	E	1.06	D	0.93	D	0.90
	SR 87N/Stewart Street	Canal Street	2	D	16,400	F	1.10	D	0.95	D	0.88	D	0.91	D	0.88	C	0.36	C	0.61
	Broad St/Willing St	Johnson Rd/Milton Tr	2	D	16,400	F	1.04	F	1.80	F	1.40	F	1.43	F	1.46	F	1.25	F	1.22
	Johnson Rd/Milton Tr	Dale St/Ward Basin Rd	2	D	16,400	N/A		F	1.65	F	1.25	F	1.28	F	1.31	F	1.10	F	1.07
	Dale St/Ward Basin Rd	Airport Rd	2	D	16,400	C	0.79	E	1.01	C	0.67	C	0.70	C	0.82	D	0.88	D	0.85
	Airport Rd	Industrial Blvd	2	D	16,400	N/A		F	1.10	C	0.76	C	0.79	D	0.88	B	0.52	B	0.55
	Industrial Blvd	SR 87S	2	D	16,400	C	0.73	E	1.01	C	0.73	C	0.76	D	0.85	B	0.49	B	0.52
SR 281/Avalon Blvd																			
	I-10	US 90	2	D	16,400	F	1.25	F	1.10	E	1.01	F	0.98	E	1.04	E	1.01	D	0.98
CR 191/Henry St																			
	South of US 90	US 90	2	D	10,000	D	0.7	E	1.15	E	1.10	E	1.10	E	1.05	C	0.19	D	0.76
CR 191/Broad St/Willing St																			
	US 90	Berryhill Rd	2	D	10,000	D	0.8	F	1.75	E	1.15	E	1.20	F	1.25	F	1.60	F	1.60

Legend

X Acceptable LOS

X Unacceptable LOS

Four-lane Divided Roadway with the Capacity of 37,500 for Alts 4 and 5

Table ES-3: Comparison of Project Traffic Volumes (2035) for Five Build Corridors

Corridor	From	To	2-Lane Undivided			4-Lane Divided		
			AADT	V/C	LOS	AADT	V/C	LOS
1	US 90	Munson Hwy	14,500	0.69	C	14,500	0.26	A
	Munson Hwy	SR 87N	13,000	0.62	C	13,000	0.23	A
2	US 90	Munson Hwy	14,000	0.66	C	14,000	0.25	A
	Munson Hwy	SR 87N	12,500	0.59	C	12,500	0.22	A
3	US 90	Munson Hwy	14,000	0.66	C	13,500	0.24	A
	Munson Hwy	SR 87N	12,000	0.57	C	11,500	0.20	A
4	US 90	Ward Basin Rd	3,400	0.16	B	3,500	0.06	A
	Ward Basin Rd	Henry St	14,500	0.68	B	16,500	0.27	A
	Henry St	Old US 90	23,000	1.08	E	25,500	0.41	B
	Old US 90	SR 87 N	15,000	0.70	C	16,000	0.26	A
Seg 5a	Corridor 4	US 90	8,700	0.41	C	12,000	0.19	A
5	US 90	Ward Basin Rd	4,800	0.23	B	4,100	0.07	A
	Ward Basin Rd	Henry St	16,500	0.77	D	17,500	0.28	A
	Henry St	Old US 90	19,500	0.92	D	21,500	0.35	B
	Old US 90	SR 89	14,500	0.68	C	11,500	0.19	A
Seg 5a	Corridor 5	US 90	6,900	0.32	C	12,000	0.19	A

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APPENDICES

1 Introduction

Advanced Transportation Engineering Consultants (ATEC), a sub-consultant to Metric Engineering, was retained by the Florida Department of Transportation, District Three, to perform a preliminary traffic report for the SR 87 Connector PD&E Study. Except in the vicinity of the City of Milton and Navarre, SR 87 is considered as a rural minor arterial roadway located in Santa Rosa County, Florida. SR 87 North (SR 87N) extends to the Alabama County Line where it continues northward as SR 41. SR 87 South (SR 87S) from US 98/SR 30 (US 98) to I-10/SR 8 (I-10) having and FDOT Section No of 58040000 has been designated as a Florida Intrastate Highway System (FIHS). FIHS and the Strategic Intermodal System (SIS), which consist of interconnected statewide systems of limited access and controlled access facilities, are developed for high-speed and high-volume traffic movements.

The proposed SR 87 Connector will provide a direct route to connect SR 87S serving the coastal area of Santa Rosa County and SR 87N serving the north of the County. It will improve connectivity and provide a shorter evacuation route without the need to go through downtown Milton. In addition, the proposed roadway will provide a more direct access from I-10 to the Naval Air Station Whiting Field (NAS Whiting Field), the northern cities of Santa Rosa County and south Alabama.

1.1 Project Location and Preliminary Area of Influence

The project's impact area, as depicted in **Figure 1-1**, is located in Santa Rosa County and is generally bordered by SR 87N to the west, SR 87S to the east, the intersection of Southridge Road and SR 87N to the north, and I-10 to the south. The NAS Whiting Field and most of the City of Milton are located within the study area.

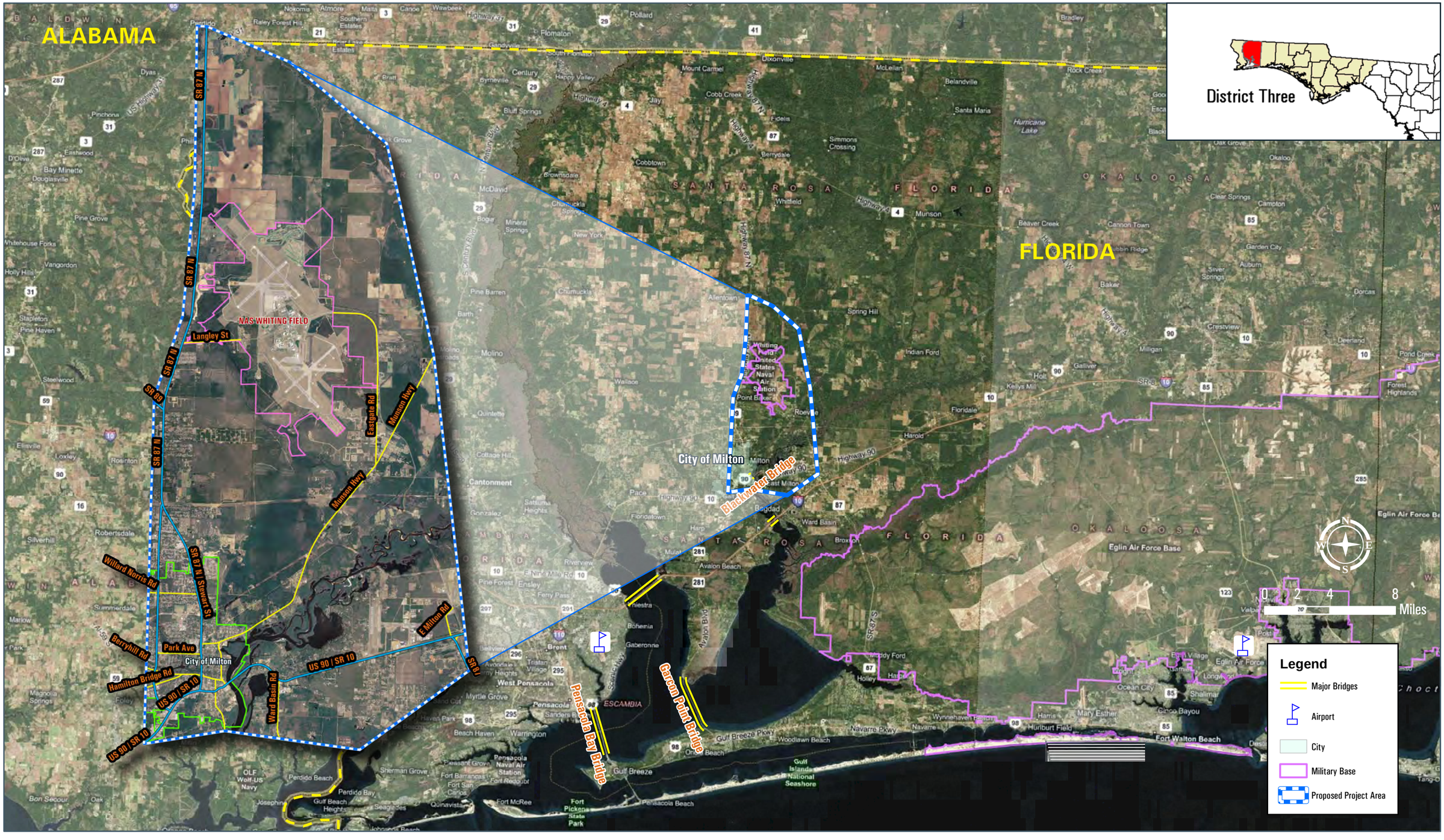
In order to truly gauge and understand any potential additional traffic impacts caused by the project, a preliminary area of influence (PAI) was established. The PAI (See **Figure 1-2**) extends to approximately 0.15 mile west of SR 89 to the west, approximately 2 miles east of SR 87S to the east, Springhill Road to the north, and I-10 to the south.

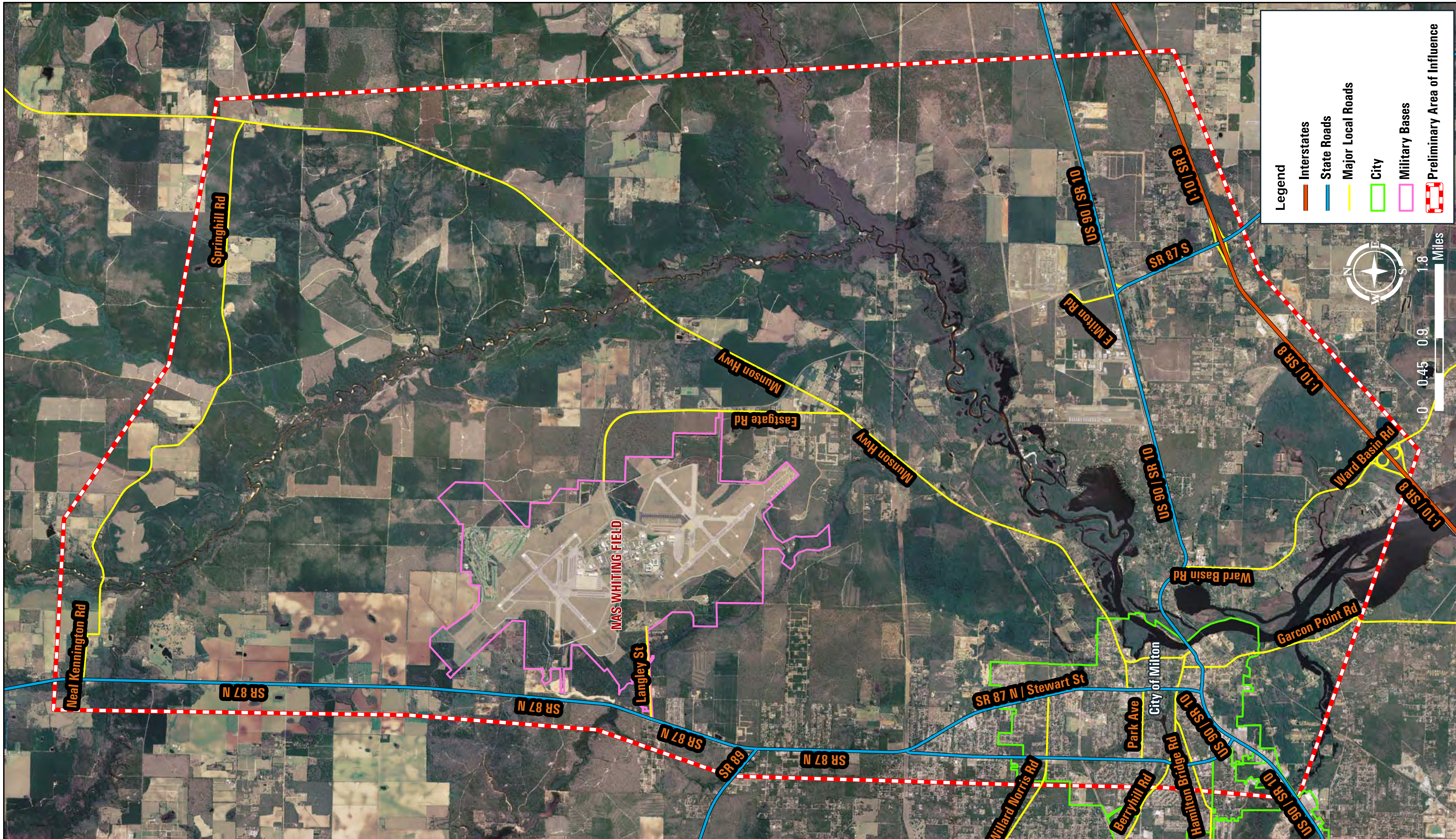
1.2 Objective of the Report

This preliminary traffic study examines the existing (2009) traffic conditions within the study area and evaluates the preliminary traffic impacts of five alternative corridors to connect SR 87S with SR 87N. Traffic analysis was performed for the design year 2035.

1.3 Report Organization

The report is comprised of six sections. Section 1 describes the project's location, area of influence and objectives. Section 2 examines the justifications for a connector between SR 87S and SR 87N. Section 3 documents the existing socioeconomic conditions. Section 4 describes the existing (2009) traffic conditions. Section 5 presents the results of a preliminary traffic analysis performed for the design year (2035) for the five corridor alternatives. Finally, Section 6 presents a summary of findings and conclusions.


ALABAMA
FLORIDA
District Three
NAS WHITING FIELD
Langley St
SR 87 N
SR 89
Eastgate Rd
Munson Hwy
Willard Norris Rd
SR 87 N / Stewart St
Berryhill Rd
Park Ave
City of Milton
Hamilton Bridge Rd
US 90 / SR 10
Ward Basin Rd
E Milton Rd
SR 191
City of Milton
Blackwater Bridge
Carcon Point Bridge
Pensacola Bay Bridge
Eglin Air Force Base
0 2 4 8 Miles
Legend
Major Bridges
Airport
City
Military Base
Proposed Project Area


Legend
Interstates
State Roads
Major Local Roads
City
Military Bases
Preliminary Area of Influence
0 0.45 0.9 1.8 Miles
Springhill Rd
Munson Hwy
Eastgate Rd
NAS WHITING FIELD
Langley St
Neal Kennington Rd
SR 87 N
SR 89
SR 87 N | Stewart St
Willard Norris Rd
Berryhill Rd
Park Ave
City of Milton
Hamilton Bridge Rd
US 90 | SR 10
I-10 / SR 8
SR 87 S
E Milton Rd
Ward Basin Rd
Garcon Point Rd

2 Need of SR 87 Connector

The main objectives of the SR 87 Connector are to improve roadway connectivity, relieve congested segments along US 90, provide a faster and more direct evacuation route without traversing the historic section of downtown Milton, accommodate future growth, and improve safety.

2.1 Roadway Connectivity

At present, there is no direct connection between SR 87S serving the southern section of Santa Rosa County and SR 87N serving the northern section of the County and providing direct access to Alabama. There is also no direct connection between NAS Whiting Field and Eglin Air Force Base (Eglin AFB). Therefore, the benefit of the proposed SR 87 Connector are to: (1) provide new roadway facility linking SR 87S with SR 87N, (2) provide additional capacity and improve regional connectivity from areas of high growth in northern Santa Rosa County to I-10 and to areas further to the south, (3) improve access to and from I-10 for NAS Whiting Field, and the County's Joint Use Planning Area near NAS Whiting Field, and (4) provide a direct connection between NAS Whiting Field and Eglin AFB. Furthermore, the new connector would be expected to relief the traffic congestion at Ward Basin Road and its intersection with US 90, and provide much needed relief to the US 90 Blackwater Bridge.

2.2 Roadway Capacity Deficiencies

A total of four segments within or near the impacted area were determined to be capacity deficient segments at present or in the future in the latest Congestion Management Process Plan adopted in December 2009 that was prepared by the Florida-Alabama TPO. Deficient segments are listed in **Table 2-1** and examined in more depth in Section 4 of this report.

Table 2-1: List of Congested Segments Identified in the Congestion Management Report

No	Road	From	To	Congestion Status
1	US 90	SR 281/Avalon Blvd	SR 87N/Stewart St	from 2018
2	US 90	Stewart St/SR 87N	Airport Rd	from 2013
3	SR 281/Avalon Blvd	I-10	US 90	Now
4	CR 184 A/Berryhill Rd	CR 197/Chumuckla Hwy	SR 89	Now

2.3 Emergency Evacuation

The Northwest Florida Region has been identified as one of the most hurricane vulnerable area of the United States. SR 87 is one of the most important Hurricane Evacuation Routes. The Garcon Point Bridge and the Pensacola Bay Bridge can be closed during a hurricane or tropical storm event, making SR 87 the only the single access out of the beach areas like Gulf Breeze and Navarre, and the only access into the area for Emergency First Responders. However, with a portion of the current alignment utilizing a congested portion of US 90 and traversing historic downtown Milton, SR 87 cannot function as a continuous roadway. Therefore, the proposed SR 87 Connector will provide a direct route from the Florida Coast north into Alabama, significantly reducing evacuation times and providing increased evacuation capacity. In addition, the proposed connector would relieve US 90 and improve traffic flow through the City of Milton.

2.4 Transportation Demand

The proposed SR 87 Connector will help accommodate the growing transportation demand within the impacted area and provide connections between local destinations such as the Gulf Coast, the City of Milton, NAS Whiting Field, and regional trips via I-10. The proposed connector will serve as an important regional travel facility for passengers and freight.

The population and employment growth trends for Santa Rosa County will place an increased demand on transportation. The population of Santa Rosa County is projected to grow by 77% from 117,743 in 2000 to 208,400 in 2035 based on the medium projection from Florida Population Studies (FPS) Bulletin 156. The population residing in the Traffic Analysis Zones (TAZs) adjacent to the SR 87 corridor is projected to increase by 131% from 2,029 in 1997 to 4,677 in 2020. Employment in the TAZs adjacent to the SR 87 corridor is also anticipated to grow due to new developments such as the Santa Rosa Corrections Facility, Blackwater River Correctional Facility, industrial parks, and others. The increase in population will increase travel demand creating more congestion on US 90 and SR 87N. Congestion reduces mobility and impacts the economic vitality of the area. It severely undermines roadway capacity and the ability to quickly and efficiently evacuate the coastal cities of Santa Rosa County during hurricanes or other disasters.

NAS Whiting Field Joint Land Use Study (NAS Whiting Field JLUS) was performed in 2003 by Hartman & Associates, Inc. The potential industrial land needs and economic development adjacent to NAS Whiting Field were evaluated in that study. The joint land uses will generate additional travel demand as explained in more details in Section 3.1.

2.5 Safety

Table 2-2 shows the summary of crash data extracted for SR 87S, SR 87N and US 90 from 2005 to 2009. There were respectively 76, 160 and 223 crashes resulting in over 280 injuries and only one fatality that occurred at MP 13.847 on US 90, just east of Ward Basin Road. The proposed SR 87 Connector will redistribute traffic, help reduce congestion, and give drivers an alternative road to US 90.

Table 2-2: Crash Summary for Year 2005 – Year 2009

Road Segment	MP		Crash Severity			Total Crashes
	From	To	Injury	Property Damage	Fatality	
SR 87S from I-10 to US 90	18.5	19.77	42	34	0	76
SR 87N from US 90 to Southridge Rd	0.004	11.36	106	54	0	160
US 90 from SR 87S to SR 87N	11.61	16.20	133	89	1	223

3 Social-economic Data and Major Traffic Generators

The socioeconomic information for the study area is described in this section. This information is related to existing and future land uses, schools, major employers, military bases and industrial parks.

3.1 Existing and Future Land Uses

The existing and future land use maps for Santa Rosa County were obtained from the Santa Rosa County Community Planning, Zoning and Development Division. The existing land use map was updated in April 2010; and the future land use map was created for the year 2025. **Figures 3-1 and 3-2** graphically illustrate the distribution of land uses throughout Santa Rosa County. The predominant land uses within the study area are City and Agriculture in both existing and future conditions. The future land use map indicated that some land uses will be converted from public owned property to industrial on the north side of US 90 near SR 87S and the east corner of the NAS Whiting Field.

As mentioned in Section 2.4, NAS Whiting Field JLUS was completed in 2003. The study evaluated the existing and future land use conflicts between airfield operations and the civilian population's expectations for living and working in the vicinity of NAS Whiting Field. The non-military lands in the vicinity of NAS Whiting Field were designated as Clear Zone/Accident Potential Zone, or as being located within a Noise Zone. The study included an inventory of population and housing within the Clear Zone/Accident Potential Zone and the Noise Zone. Recommendations for the maximum residential density within the various zoning classifications were proposed and the benefits of clustering residential homes away from the airfield boundaries and the noise zones were discussed. The report recommends pursuing funds to acquire lands abutting NAS Whiting Field and to promote economic development of the land near the southeast corner of NAS Whiting Field.

3.2 Schools and Major Employers

There are a total of 22 public or private schools located within or near the study area. **Figure 3-3** presents the locations of schools. It should be noted that Bennett C. Russell Elementary was opened in August, 2007, and Santa Rosa Community is a summer school. ATEC has confirmed that there are currently no students at the University of Florida's IFAS and Berryhill Administrative Complex School.

The top-ten employers based on the number of employees within or near the study area are also shown in **Figure 3-3**. The employment information was obtained from InfoUSA 2007, the Bureau of economics and Business Research (BEBR), and the Florida Research and Economic Database. The locations of these employers were verified by using Santa Rosa County Parcel Maps. It should be noted that the employment data from InfoUSA may have underestimated the total employment in the county due to the lack of the data on the military bases. Also, the employment data from BEBR does not include the data of the military bases.

3.3 Military Bases

Military activity plays an important role in the workforce and local economy of Santa Rosa County. NAS Whiting Field is located approximately three miles north of the City of Milton as previously shown in **Figure 1-2**. NAS Whiting Field is approximately 4,010 acres in size and is considered to be the busiest naval air station in the world. Some basic information of NAS Whiting Field is provided in **Table 3-1**.

Eglin Air Force Base is located approximately three miles southwest of the City of Valparaiso, Florida, as previously shown in **Figure 1-1**. Military base realignment in the United States is anticipated to relocate 11,000 military and civilian persons to Eglin AFB, as stated in the County's management plan document. Although Eglin AFB is not located within the PAI, it is just outside the boundary and only about eight miles southeast of NAS Whiting Field. Therefore,

the projected growth at Eglin AFB will have a definite impact on transportation and economic activity within the study area. **Table 3-1** shows the current size of the air bases, the number of personnel, and the number and size of buildings.

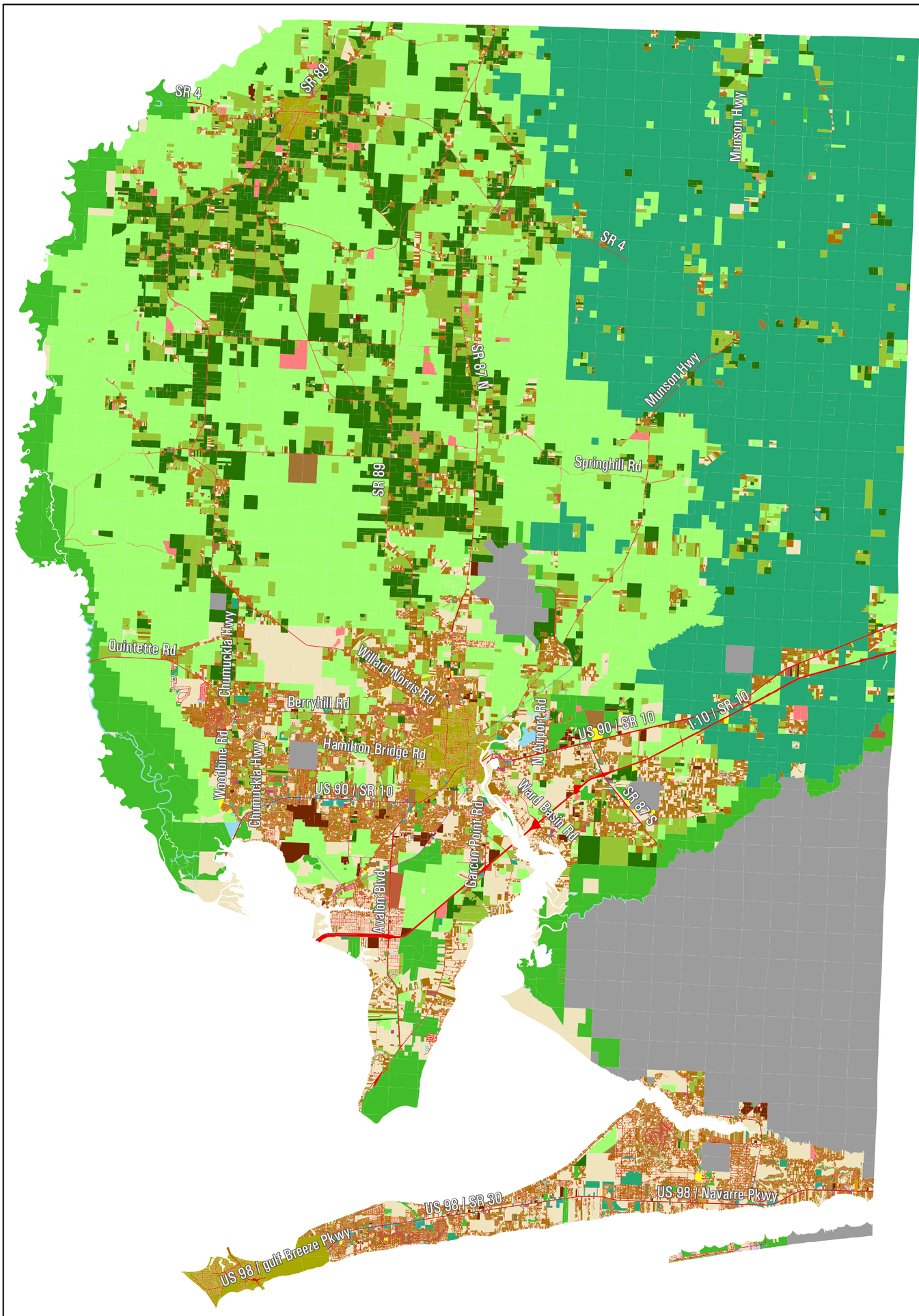
Table 3-1: Information of NAS Whiting Field and Eglin AFB

Bilitary Base	NAS Whiting Field	Eglin AFB
Total Acreage of Installation	9,070	455,571
Military Personnel	1,710	8,424
Civilian Personnel	870	10,061
Buildings Owned	424	2,366
Buildings Owned Square Feet	1,840,299	12,330,763

Source: Florida Defense Industry-Economic Impact Analysis, January, 2008

3.4 Industrial Parks

There are seven existing or planned industrial parks within or near the study area. The locations of the industrial parks and their existing status are provided in **Figure 3-4**. Two industrial parks have been completed and one is scheduled for completion in 2011. The remaining four industrial parks are currently undeveloped. The proposed SR 87 connector will benefit the industrial parks and the local economy by significantly improving access to the parks and regional connectivity especially for trucks destined to Alabama.



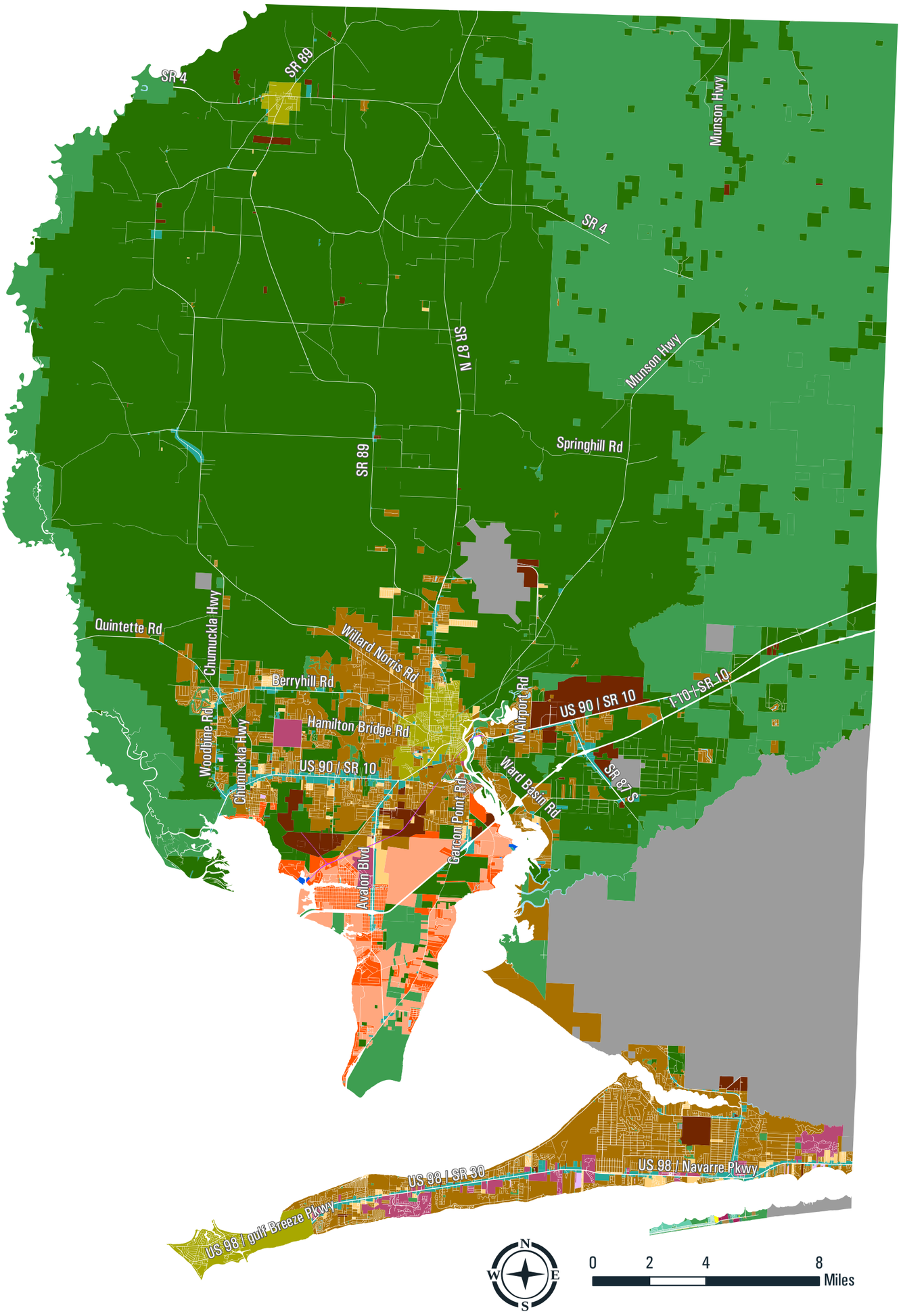
Legend

- Agriculture
- Agriculture-Homestead
- City
- Commercial
- Condo's/Townhomes
- Industrial
- Institutional
- Military
- Mixed Residential/Commercial
- Multi-Family Residential < 5
- Multi-Family Residential > 5
- Office
- Public Owned Property
- Rail
- Recreation/Commercial
- Recreation/Open Space
- Right of Way
- Silviculture
- Single Family Residential
- Uncategorized
- Utilities
- Vacant
- Water

N W E S

0 2 4 8 Miles

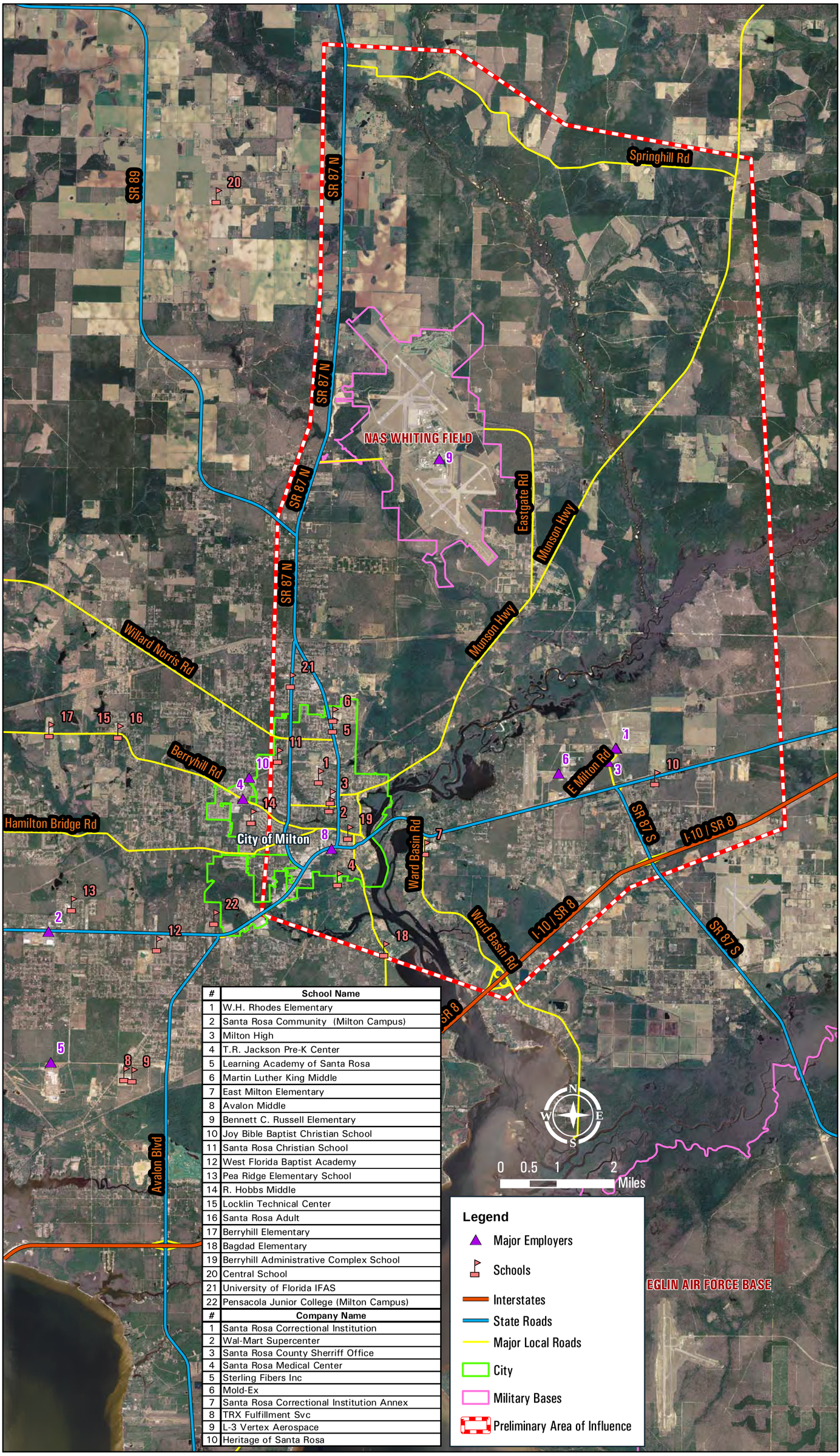
Figure 3-1: Existing Land Use Map for Santa Rosa County



Legend

- Agriculture
- Bagdad Historic District
- City
- Commercial
- Conservation/Recreation
- Garcon Point Rural Residential
- Garcon Point Single Family Residential
- Industrial
- Marina
- Medium Density Residential
- Military
- Mixed Residential Commercial
- Navarre Beach Commercial
- Navarre Beach High Density Residential
- Navarre Beach Low Density Residential
- Navarre Beach Medium Density Residential
- Navarre Beach Medium/High Density Residential
- Navarre Beach Mixed Residential/Commercial
- Navarre Beach Utilities
- Rail
- Residential
- Single Family Residential
- Water

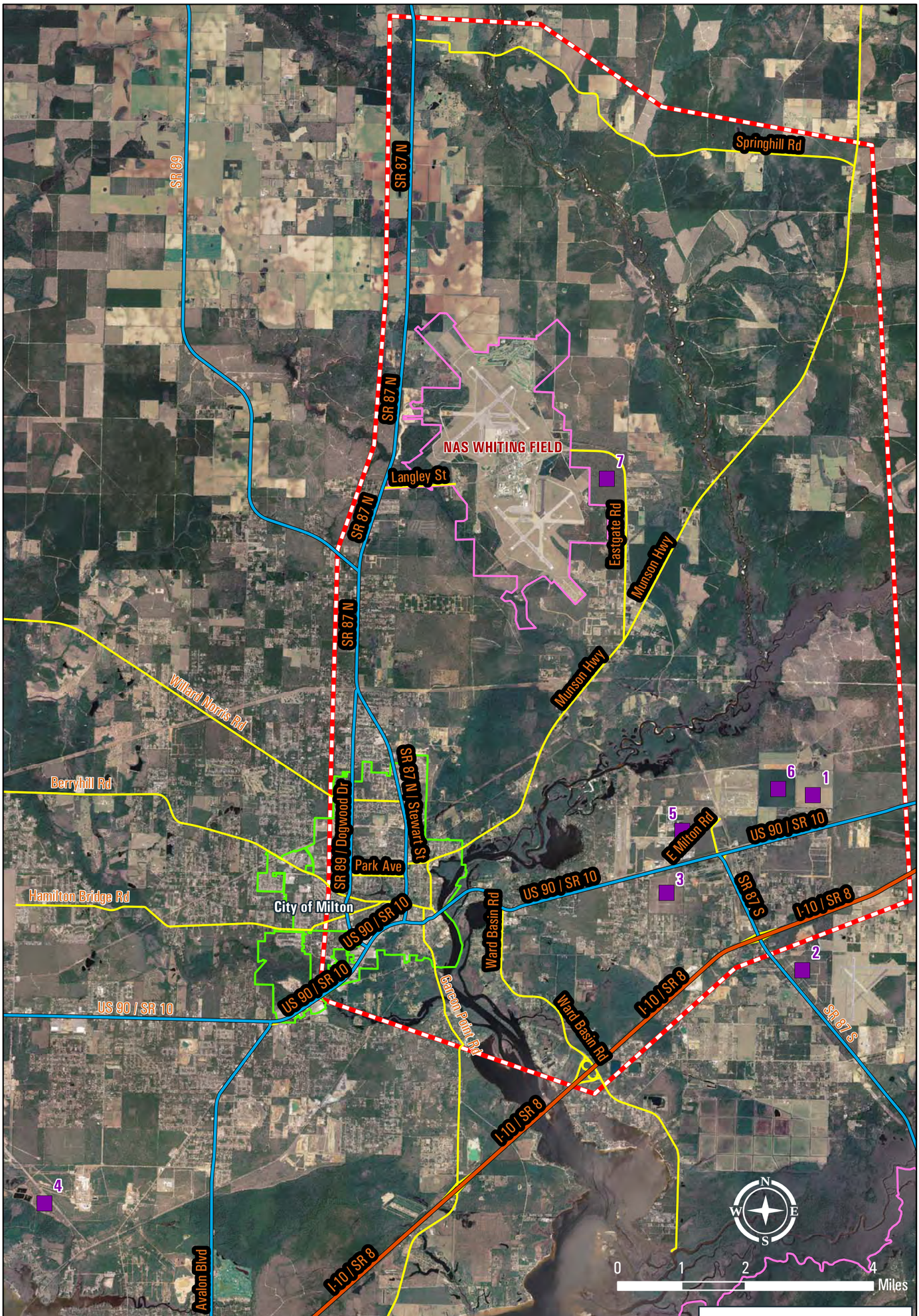
Figure 3-2: Future Land Use Map for Santa Rosa County



#	School Name
1	W.H. Rhodes Elementary
2	Santa Rosa Community (Milton Campus)
3	Milton High
4	T.R. Jackson Pre-K Center
5	Learning Academy of Santa Rosa
6	Martin Luther King Middle
7	East Milton Elementary
8	Avalon Middle
9	Bennett C. Russell Elementary
10	Joy Bible Baptist Christian School
11	Santa Rosa Christian School
12	West Florida Baptist Academy
13	Pea Ridge Elementary School
14	R. Hobbs Middle
15	Locklin Technical Center
16	Santa Rosa Adult
17	Berryhill Elementary
18	Bagdad Elementary
19	Berryhill Administrative Complex School
20	Central School
21	University of Florida IFAS
22	Pensacola Junior College (Milton Campus)

#	Company Name
1	Santa Rosa Correctional Institution
2	Wal-Mart Supercenter
3	Santa Rosa County Sherriff Office
4	Santa Rosa Medical Center
5	Sterling Fibers Inc
6	Mold-Ex
7	Santa Rosa Correctional Institution Annex
8	TRX Fulfillment Svc
9	L-3 Vertex Aerospace
10	Heritage of Santa Rosa

Figure 3-3: Locations of Schools and Major Employers



No	Name	Location	Max. Area (acres)	Employer*	Employee*	Remark
1	Gulf Coast Rail Industrial Park	Located 3 miles east of Milton on US 90, 1 mile north of I-10	200	0	0	Undeveloped, currently privately owned.
2	Northwest Florida Industrial Park	On SR 87S, 1/2 miles south of I-10	216	0	0	Announced in 2010.
3	Northwood Park	Located 3 miles east of Milton on US 90, 1 mile north of I-10	170	0	0	Undeveloped.
4	Pace Industrial Area	In the Pea Ridge Area, 2 miles south of US 90 off Bell Lane	1200	1	100	Start marketing in 2009.
5	Santa Rosa County Industrial Park	Located 3 miles east of Milton on US 90, 1 mile north of I-10	40+	25	over 2,000	Original industrial park for Santa Rosa County.
6	Santa Rosa Industrial Expansion	Located 2.5 miles east of Milton on US 90, 1.75 miles north of I-10	160	0	0	Infrastructure was completed, plan to start marketing in 2011.
7	Whiting Avation Park	Located 3 miles east of SR 87N, 10 miles north of I-10	269	0	0	Under construction.

* Updated to Jun, 2010

Legend

- Industrial Parks
- Interstates
- State Roads
- Major Local Roads
- City
- Military Bases
- Preliminary Area of Influence

Figure 3-4: Industrial Parks

4 Existing Traffic Conditions

Existing roadway characteristics were collected and analyzed for each significant roadway segment within the study area. The methods and procedures used to collect the roadway characteristics and evaluate the traffic operational conditions of each roadway segment were based on Chapters 14-96 and 14-97 of the Florida Administrative Code (F.A.C.) Rule, the 2007 FDOT LOS tables, and the 2000 Highway Capacity Manual.

4.1 Existing Transportation Facilities

- Significant Roadway Segments: 20 major roadways were identified in the PAI as shown on **Table 4-1** and **Figure 4-1**. **Table 4-1** also illustrates some pertinent characteristics of these roadway segments and the 2009 traffic data obtained from the corresponding FDOT's traffic count stations.

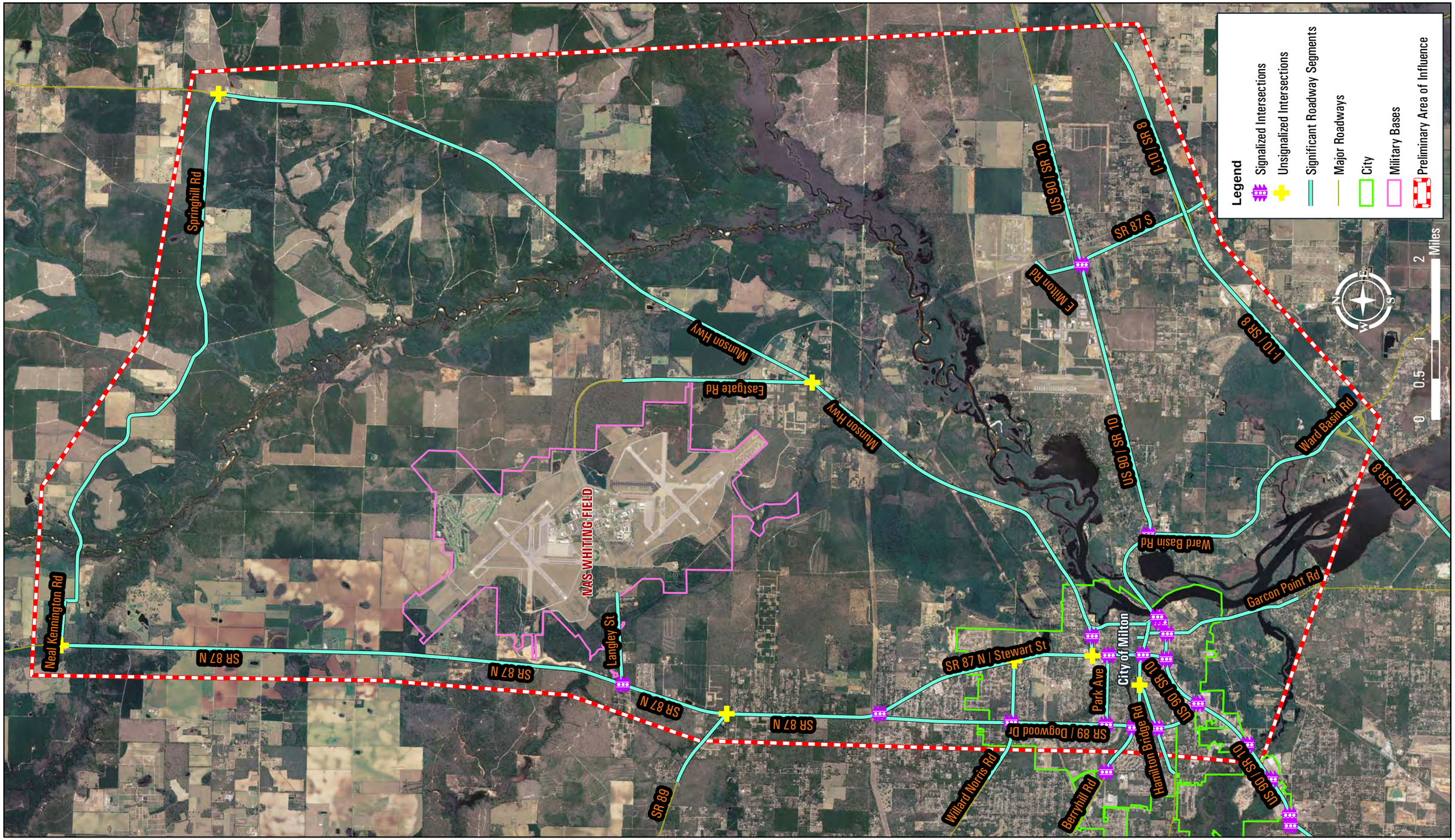
- Major Intersections: The study area includes 31 major intersections (21 signalized, 10 unsignalized) that are depicted in **Figure 4-1**.

- Functional Classification: The latest functional classification information prepared by FDOT Transportation Statistics Office shows most of the roadway segments within the PAI are urban roadways, except the north portion of SR 87N, Munson Highway, and I-10 east of SR 87S which are rural roadways. It should be noted that for capacity purposes, I-10 from SR 87S to County Line, Neal Kennington Road/Springhill Road (Springhill Road), SR 87N from Whiting Field Circle to Springhill Road, and CR 191/Munson Highway from CR 87A to Springhill Road were determined to be located within a transitioning area. The roadway network consists of interstate roadways, arterials, collectors, and local roadways. **Figure 4-2** shows the functional classification of all major facilities within the study area.

- Access Management Classification: The latest access management roadway classification was obtained from FDOT's Transportation Statistics Office. Seven access classes and standards are illustrated in Chapter 14-97 F. A. C. Rule. The access management classifications the roadways within the study area are the following: I-10 (Access Class 1), US 90 (Access Classes 4 to 6), SR 87N/Stewart Street (Access Classes 3 to 6), SR 89 (Access Classes 3 to 5), and SR 281/Avalon Boulevard (Access Class 4). Roadway access management classifications are shown in **Figure 4-3**.

Table 4-1: Significant Roadway Segments within the PAI

Roadway	From	To	No of Lanes	Roadway Type	Adopted LOS	FDOT Count Station No (58xxxx)
I-10/SR 8	SR 281/Avalon Blvd	Garcon Point Rd	4	Divided	C	2003
	Garcon Point Rd	Ward Basin Rd	4	Divided	C	2008
	Ward Basin Rd	SR 87S/East Milton Rd	4	Divided	C	2005
	SR 87S/East Milton Rd	Log Lake Rd	4	Divided	C	2007
US 90/SR 10	SR 281/Avalon Blvd	Parkmore Plaza	4	Divided	D	
	Parkmore Plaza	Glover Ln	4	Divided	D	1502
	Glover Ln	SR 89/Dogwood Dr	4	Divided	D	
	SR 89/Dogwood Dr	SR 87N/Stewart St	4	Divided	D	5018
	SR 87N/Stewart St	Canal St	2	Undivided	D	5011
	Canal St	Elmira St	2	Undivided	D	5010
	Elmira St	Broad St/Willing St	2	Undivided	D	
	Broad St/Willing St	Johnson Rd/Milton Tr	2	Undivided	D	1507
	Johnson Rd/Milton Tr	Dale St/Ward Basin Rd	2	Undivided	D	
	Dale St/Ward Basin Rd	Airport Rd	2	Undivided	D	62
	Airport Rd	Industrial Blvd	2	Undivided	D	
	Industrial Blvd	SR 87S/East Milton Rd	2	Undivided	D	19
	SR 87S/East Milton Rd	County Line	2	Undivided	D	18
Hamilton Bridge Rd	Glover Ln	SR 89/Dogwood Dr	2	Undivided	D	253
	SR 89/Dogwood Dr	Berryhill Rd	2	Undivided	D	
CR 184 A/Berryhill Rd	Glover Ln	SR 89/Dogwood Dr	2	Undivided	D	5023
	SR 89/Dogwood Dr	SR 87N/Stewart St	2	Undivided	D	5019
	SR 87N/Stewart St	Canal St	2	Undivided	D	
	Canal St	Broad St	2	Undivided	D	
Park Ave	SR 89/Dogwood Dr	SR 87N/Stewart St	2	Undivided	D	5001
CR 191/Williard Norris Rd/Magnolia St	Northrop Rd	SR 89/Dogwood Dr	2	Undivided	D	5025
	SR 89/Dogwood Dr	SR 87N/Stewart St	2	Undivided	D	5015
CR 87 A/Langley St	SR 87N/Stewart St	NAS Whiting Field	2	Undivided	D	248
Springhill Rd/ Neal Kennington Rd	SR 87N/Stewart St	Lewis Rd	2	Undivided	D	242
	Lewis Rd	CR 191/Munson Hwy	2	Undivided	D	
SR 281/Avalon Blvd	I-10	US 90/SR 10	2	Undivided	D	215
SR 89/Dogwood Dr	US 90 / SR 10	Hamilton Bridge Rd	4	Divided	D	5017
	Hamilton Bridge Rd	Berryhill Rd	4	Divided	D	
	Berryhill Rd	Park Ave	4	Divided	D	
	Park Ave	Williard Norris Rd/Magnolia St	4	Divided	D	5016
	Williard Norris Rd/Magnolia St	SR 87N/Stewart St	4	Divided	D	1506
	SR 87N/Stewart St	West	2	Undivided	D	121
SR 87N/Stewart St	US 90/SR 10	Berryhill Rd	4	Divided	D	5006
	Berryhill Rd	Park Ave	4	Divided	D	
	Park Ave	Raymond Hobbs St	4	Divided	D	5004
	Raymond Hobbs St	SR 89/Dogwood Dr	4	Divided	D	1508
	SR 89/Dogwood Dr	SR 89 North	4	Divided	D	9937
	SR 89 North	Langley St	4	Divided	D	114
	Langley St	Whiting Field Cir	2	Undivided	D	119
	Whiting Field Cir	Springhill Rd/Neal K. Rd	2	Undivided	D	
CR 191/Alabama St/ Henry St/Canal St	South of US 90/SR 10	US 90/SR 10	2	Undivided	D	5014
	US 90/SR 10	North of US 90/SR 10	2	Undivided	D	5022
CR 191/Broad St/Willing St	US 90/SR 10	Berryhill Rd	2	Undivided	D	5008
	Berryhill Rd	CR 191/Munson Hwy	2	Undivided	D	5007
Ward Basin Rd	I-10	South Airport Rd	2	Undivided	D	281
	South Airport Rd	US 90/SR 10	2	Undivided	D	186
SR 87S	South of I-10	I-10	4	Divided	D	271
	I-10	US 90/SR 10	4	Divided	D	20
	US 90/SR 10	Correction Facility	2	Undivided	D	
CR 191/Munson Hwy	SR 87N/Stewart St	Broad St	2	Undivided	D	5002
	Broad St	Munson Ln	2	Undivided	D	
	Munson Ln	CR 87 A	2	Undivided	D	1501
	CR 87 A	Springhill Rd	2	Undivided	D	
CR 87A/Whiting Field Cir/ East Entrance	Munson Hwy	NAS Whiting Field	2	Undivided	D	247


Legend
Signalized Intersections
Unsignalized Intersections
Significant Roadway Segments
Major Roadways
City
Military Bases
Preliminary Area of Influence
0
0.5
1
2
Miles
N
W
E
S
Springhill Rd
Munson Hwy
Eastgate Rd
E Milton Rd
US 90 / SR 10
I-10 / SR 8
SR 87 S
Ward Basin Rd
Garcon Point Rd
NAS WHITING FIELD
Langley St
Neal Kennington Rd
SR 87 N
SR 89
SR 89 / Dogwood Dr
SR 87 N / Stewart St
City of Milton
Park Ave
Hamilton Bridge Rd
Willard Norris Rd
Berryhill Rd

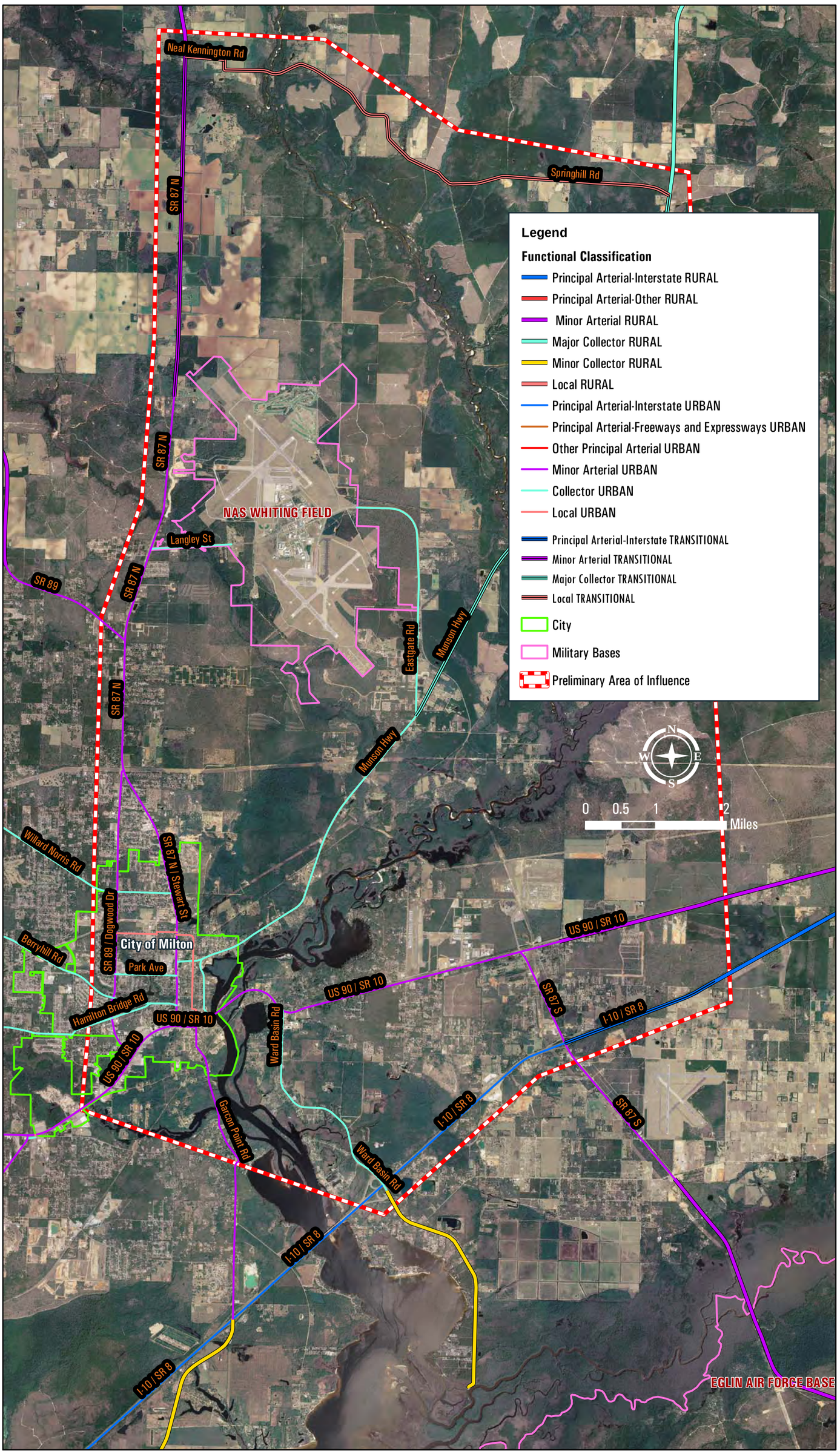


Figure 4-2: Functional Classification

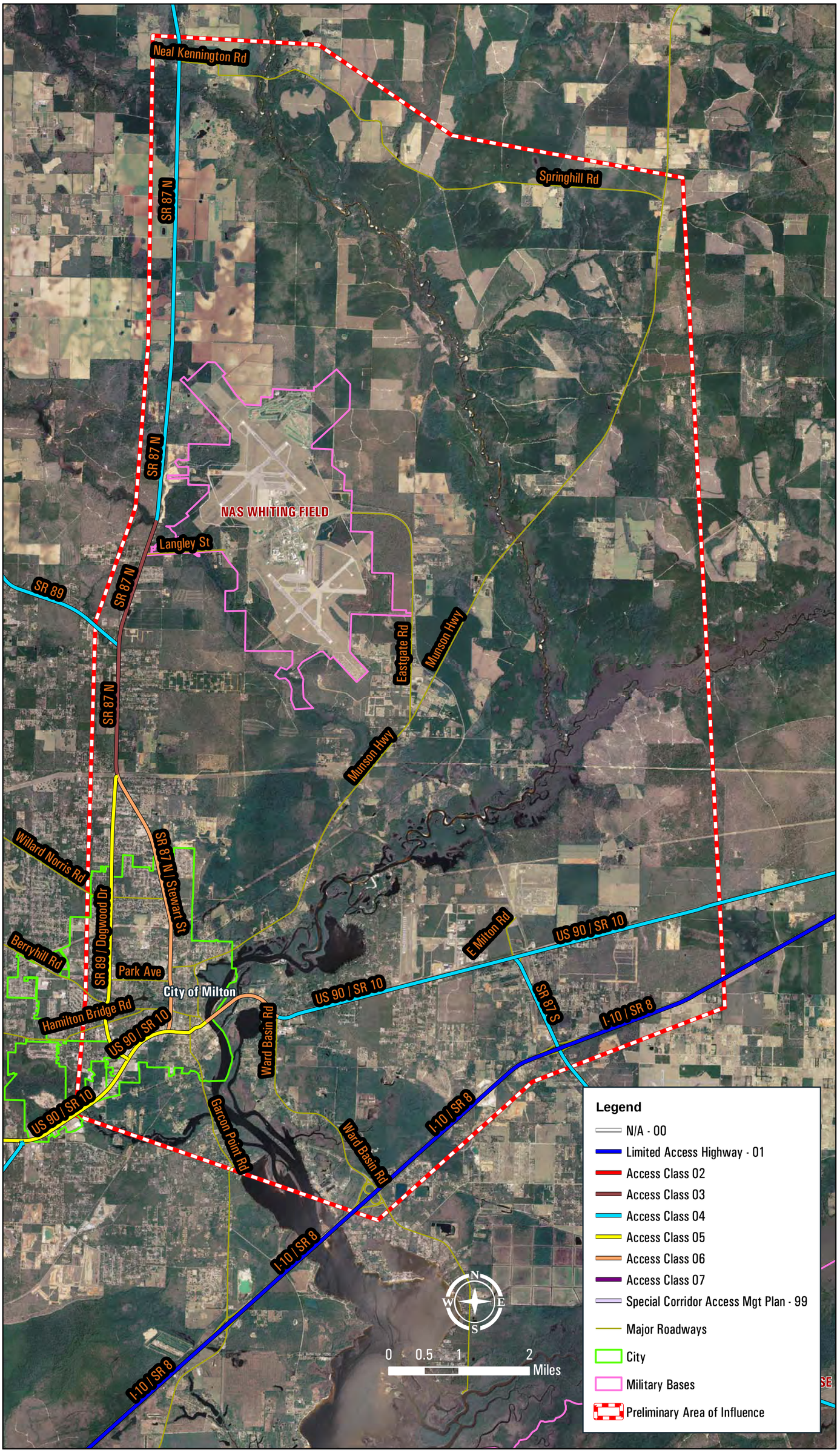


Figure 4-3: Access Management Classification

- Transit System: Even though presently public transit service is not being provided within Santa Rosa County, a new and fully funded bus service is scheduled to start operation by the end of 2010. This bus service will connect low income presidential areas to the industrial parks in East Milton and the commercial/retail jobs along the US 90 corridor. The bus service information is provided in **Table 4-2**. In addition, it should be noted that the Pensacola Bay Transportation Company, LLC presently provides paratransit services in the urbanized and non-urbanized areas of the County.

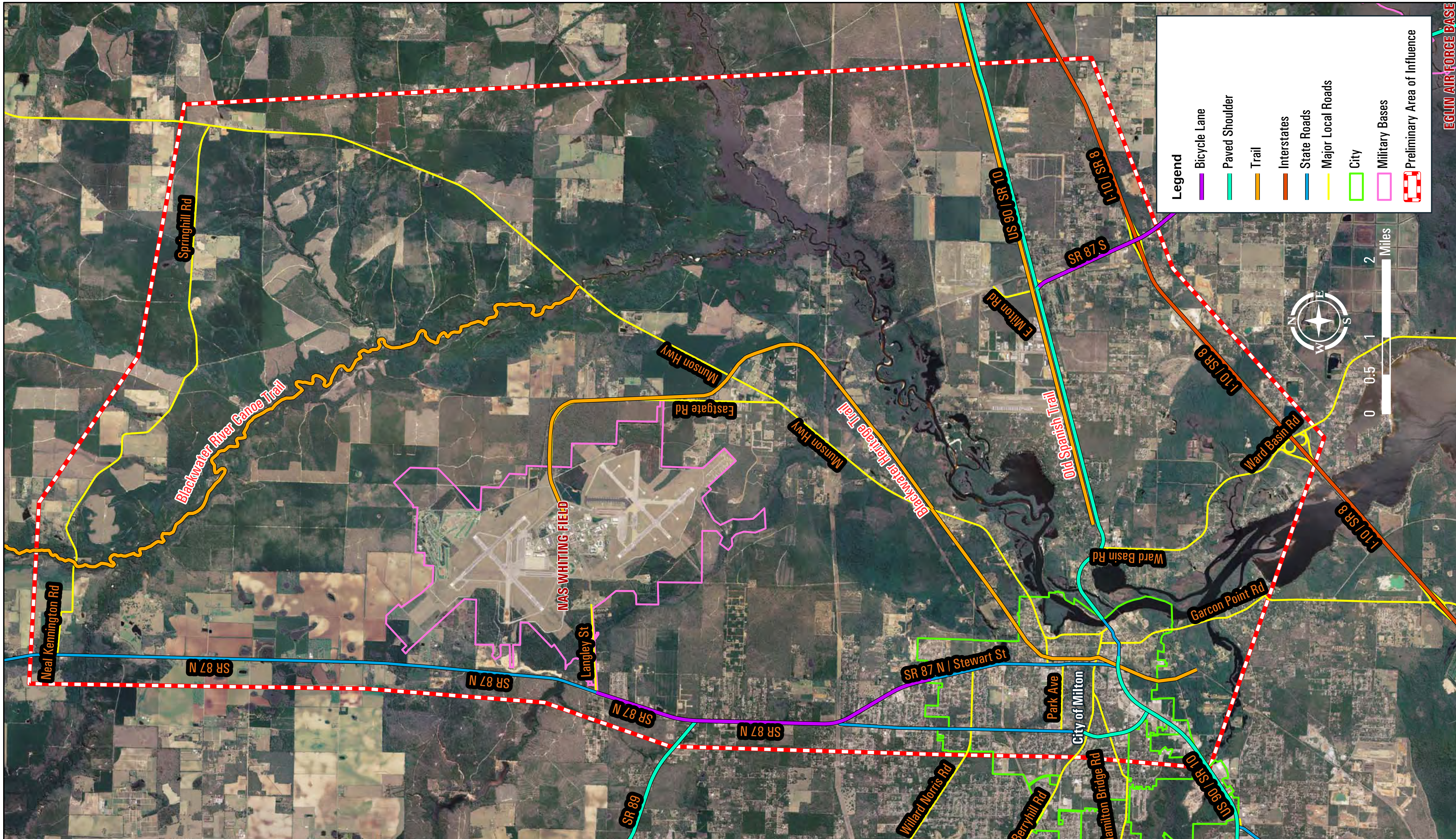
Table 4-2: Santa Rosa Transit Hwy 90

Route Name	Service Area	Planned		
		No of Stations	Hours of Operation	Fare ($)
Santa Rosa Transit Hwy 90	US 90 corridor from the intersection of Nine Mile Rd/University Parkway in Escambia County to 1 mile east of the intersection of US 90/SR 87S in Santa Rosa County. The route also includes stops in the City of Milton north of US 90.	24	Monday to Friday 4:30 AM to 5:30 PM	$1.00

- Bicycle/Pedestrian Facilities: There are three trails and five roadway segments with bicycle lanes or paved shoulders within the study area as shown in **Figure 4-4**. The three trails are (1) Blackwater Heritage Trail which is a paved 9.5-mile multi-use path, (2) Old State Road No. 1, also named the Old Spanish Trail, which is a 7-mile brick road parallel to US 90, and (3) Blackwater River Canoe Trail which is a 31-mile tannin-stained canoe trail. Bicycle lanes or paved shoulders are provided for five roadway segments shown in **Figure 4-4**. **Table 4-3** lists three potential bicycle/pedestrian projects which were included in the 2025 Long Range Transportation Plan (LRTP).

Table 4-3: Future Bicycle/Pedestrian Projects in LRTP 2025

No	Type	Roadway	Section #	Location	Remark
1	Bicycle Lanes or Routes	Berryhill St	58000001	From SR 89 to SR 87N	CF Plan Projects
2	Bicycle Lanes or Routes	Berryhill St	58508000	From West to SR 89	CF Plan Projects
3	Multi-use Trail /Signs/Kiosks	US 90	58010000	From Willing St to 2.65 Mile East of SR 87S	CF Enhancement Projects



Legend
Bicycle Lane
Paved Shoulder
Trail
Interstates
State Roads
Major Local Roads
City
Military Bases
Preliminary Area of Influence
0
0.5
1
2
Miles
N
E
S
W
EGLIN AIR FORCE BASE
Springhill Rd
Blackwater River Canoe Trail
Munson Hwy
Eastgate Rd
Blackwater Heritage Trail
NAS WHITING FIELD
Langley St
Neal Kennington Rd
SR 87 N
SR 87 N / Stewart St
SR 89
Willard Norris Rd
Berryhill Rd
Park Ave
City of Milton
Hamilton Bridge Rd
US 90 / SR 10
Old Spanish Trail
E Milton Rd
SR 87 S
I-10 / SR 8
Ward Basin Rd
Garcon Point Rd

- Truck Routes and Railroads: The major truck routes for trucks hauling goods and raw materials in and out of the study area include I-10, US 90, and SR 87N/S. One railroad company, CSX Transportation (CSXT), provides freight service for about 750-1,000 cars per day. **Figure 4-5** shows the major truck routes and railroad tracks.

4.2 Existing Traffic Data

Existing Average Annual Daily Traffic (AADT) volumes, design hour factor (K factor), directional distribution factor (D factor), and 24-hour truck percentage (T24) were obtained from the FDOT's 2009 Florida Traffic Information (FTI) and Florida Highway Data (FHD) DVD. The traffic volumes were collected by FDOT at 41 count stations located within or near the study area. The FDOT count stations are shown in **Figure 4-6**.

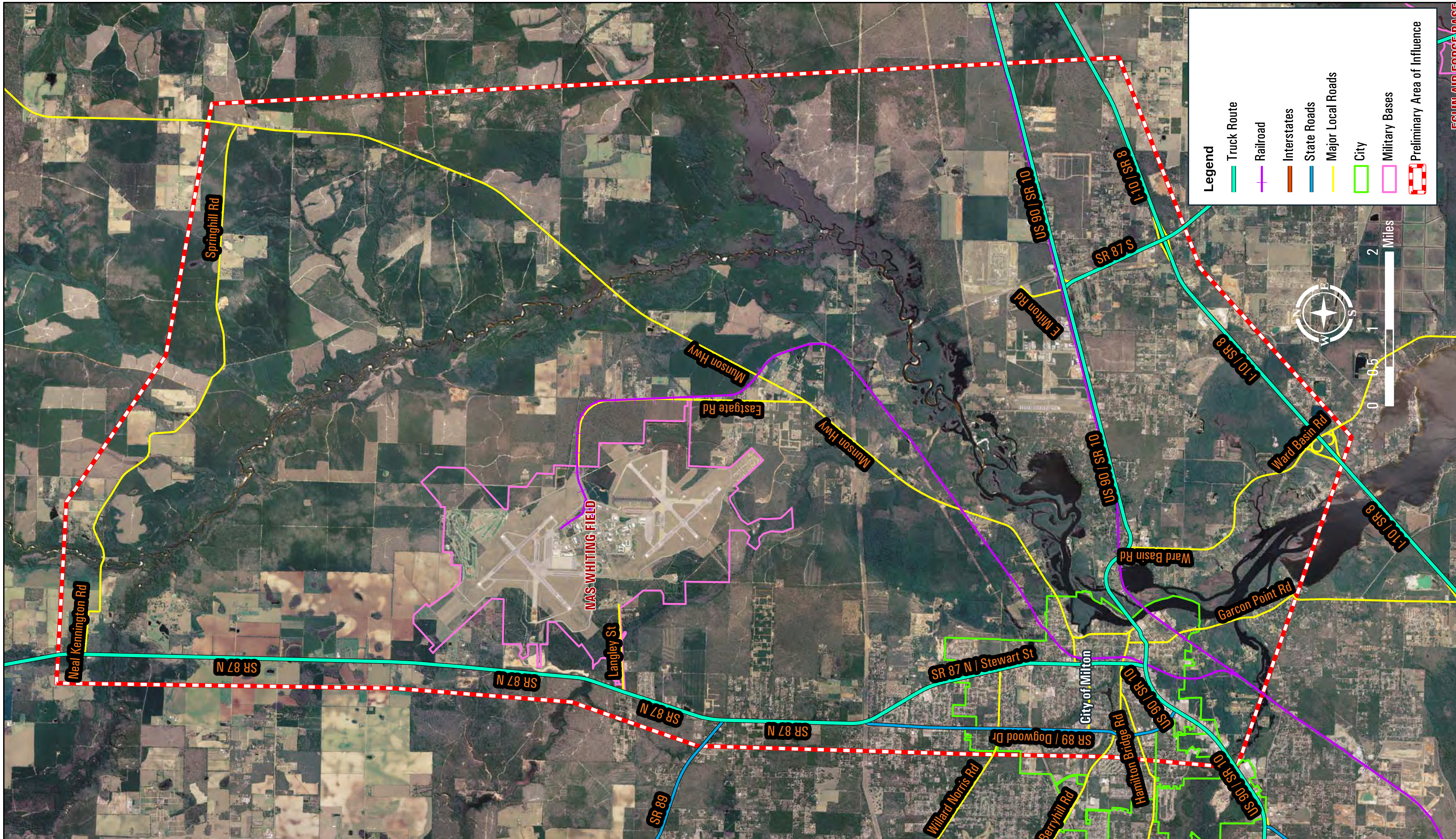
- Automatic Traffic Count Data: The automatic traffic volume counts were collected during a continuous period of at least 24-hour and recorded in 15-minute intervals at the count stations shown in **Figure 4-6**. The 2009 daily traffic volume variations for FDOT count stations located within our study area are provided in **Appendix I**.

- Seasonal Factor (SF), Axle Correction Factor, K, D, and T24 Factors: The 2009 SF, Axle Correction Factor, K, D, and T24 factors for roadway segment within or near the PAI were extracted from the FDOT's 2009 FTI DVD. These factors are provided in **Table 4-4**.

- Annual Average Daily Traffic Volumes (AADTs): AADTs for roadway segments were obtained from the corresponding FDOT traffic count stations in the FDOT's 2009 Florida FTI DVD and are shown in **Figure 4-7**.

- Maximum Directional AADT: The synopsis reports for each FDOT traffic count station were reviewed to determine the maximum directional daily traffic volumes. The volumes were adjusted using the seasonal and axle correction factors to obtain the maximum directional annual daily traffic volumes shown in **Figure 4-8**. For those count stations without directional information, first, the maximum daily traffic volumes were adjusted by corresponding seasonal, axle correction, and D factors to obtain the maximum directional AADT volumes.

- Maximum Peak Hour Directional Volumes: The two-way peak hour volumes were adjusted using the seasonal and axle correction factors to obtain the peak hour directional volumes. **Figure 4-9** presents maximum peak hour directional traffic volumes for roadway segments within the study area.


Legend
Truck Route
Railroad
Interstates
State Roads
Major Local Roads
City
Military Bases
Preliminary Area of Influence
Miles
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EGLIN AIR FORCE BASE
NAS WHITING FIELD
City of Milton
Springhill Rd
Neal Kennington Rd
Munson Hwy
Eastgate Rd
Langley St
SR 87 N
SR 87 N / Stewart St
SR 87 S
SR 89
SR 89 / Dogwood Dr
US 90 / SR 10
I-10 / SR 8
E Milton Rd
Ward Basin Rd
Garcon Point Rd
Willard Norris Rd
Berryhill Rd
Hamilton Bridge Rd

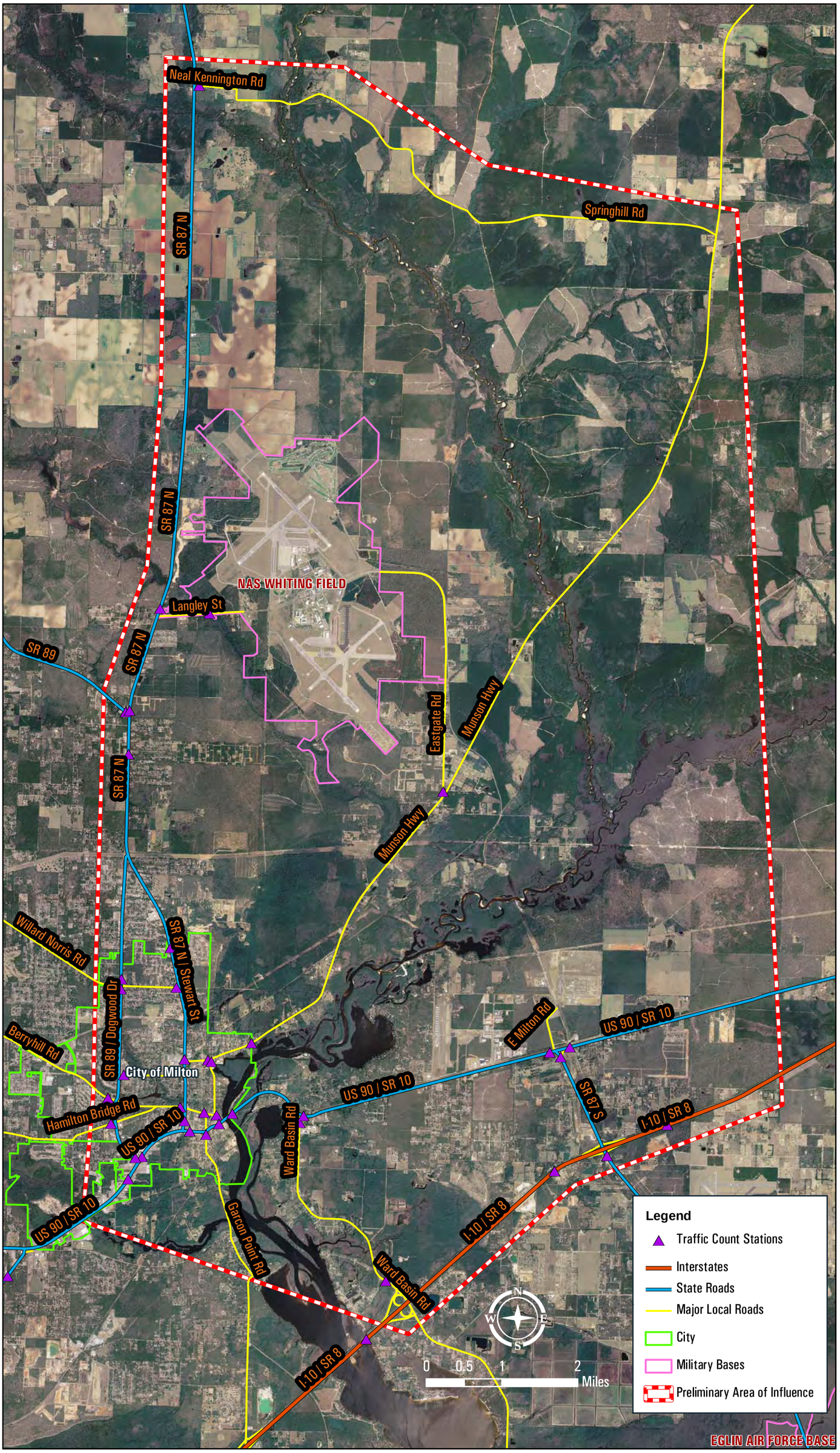
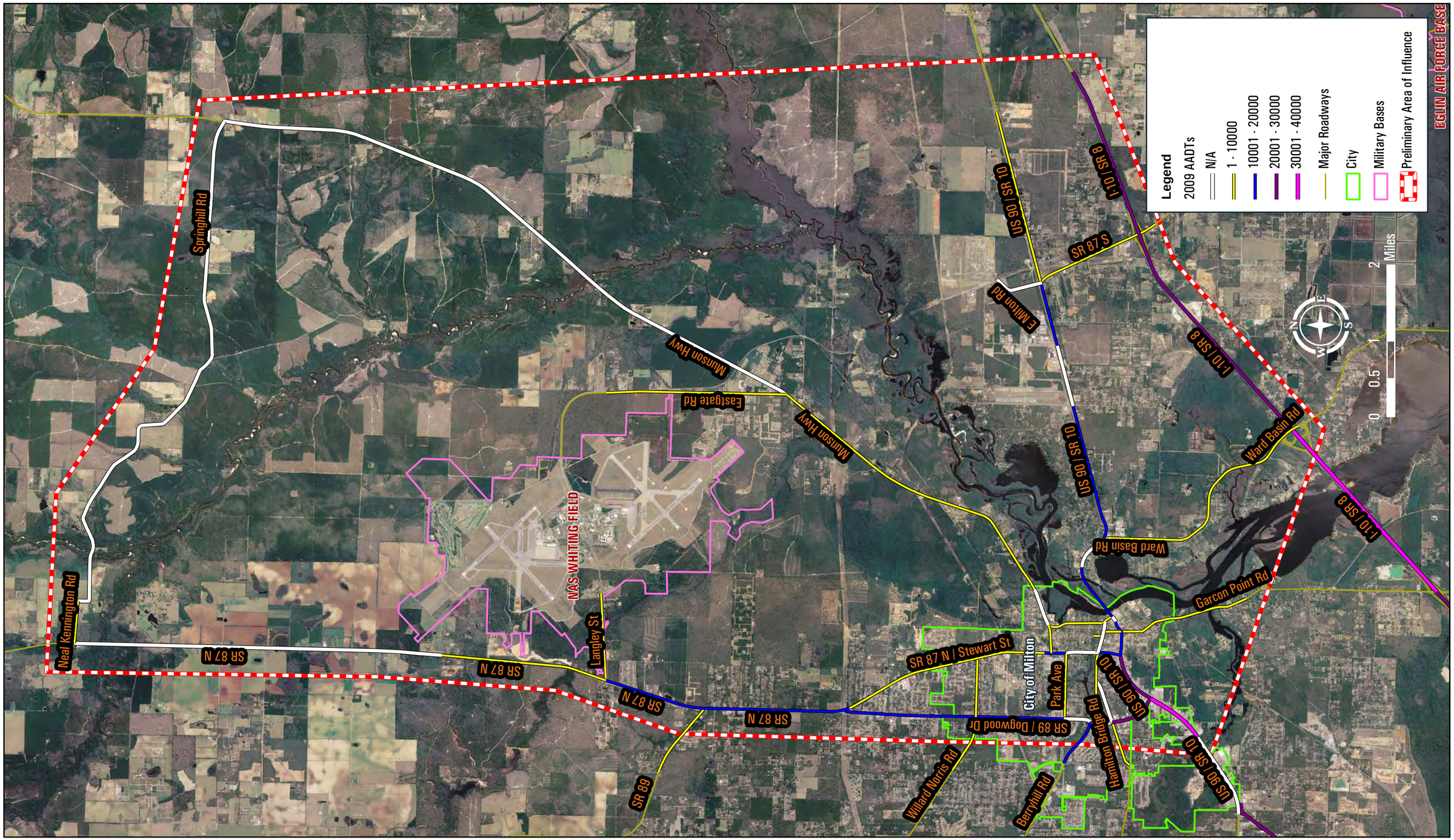


Figure 4-6: Locations of Traffic Count Stations

Table 4-4: SF, Axle Correction Factor, K, D and T24 Factors

Roadway	From	To	FDOT Count Station No (58xxxx)	SF	Axle Correction Factor	K	D	T24
I-10	SR 281/Avalon Blvd	Garcon Point Rd	2003	1.10	0.75	11.62	55.11	24.41
	Garcon Point Rd	Ward Basin Rd	2008	0.99	0.81	11.62	55.11	21.78
	Ward Basin Rd	SR 87S	2005	0.99	0.80	11.62	55.11	23.13
	SR 87S	Log Lake Rd	2007	1.10	0.75	11.62	55.11	28.33
US 90	SR 281/Avalon Blvd	Parkmore Plaza						
	Parkmore Plaza	Glover Ln	1502	1.06	0.99	10.79	55.78	3.28
	Glover Ln	SR 89						
	SR 89	SR 87N/Stewart St	5018	1.01	0.99	10.79	55.78	3.11
	SR 87N/Stewart St	Canal St	5011	1.06	0.95	10.79	55.78	7.80
	Canal St	Elmira St	5010	1.06	0.95	10.79	55.78	7.80
	Elmira St	Broad St/Willing St						
	Broad St/Willing St	Johnson Rd/Milton Tr	1507	0.98	0.96	10.79	55.78	8.06
	Johnson Rd/Milton Tr	Dale St/Ward Basin Rd						
	Dale St/Ward Basin Rd	Airport Rd	62	0.98	0.96	10.79	55.78	7.02
	Airport Rd	Industrial Blvd						
	Industrial Blvd	SR 87S	19	1.06	0.95	10.79	55.78	6.81
	SR 87S	County Line	18	1.01	0.97	10.79	55.78	10.01
Hamilton Bridge Rd	Glover Ln	SR 89	253	1.06	0.97	10.79	55.78	6.09
	SR 89	Berryhill Rd						
Berryhill Rd	Glover Ln	SR 89	5023	1.06	0.97	10.79	55.78	6.09
	SR 89	SR 87N/Stewart St	5019	1.06	0.97	10.79	55.78	6.09
	SR 87N/Stewart St	Canal St						
	Canal St	Broad St						
Park Ave	SR 89	SR 87N/Stewart St	5001	1.06	0.97	10.79	55.78	6.09
Williard Norris Rd/ Magnolia St	Northrop Rd	SR 89	5025	1.06	0.97	10.79	55.78	6.09
	SR 89	SR 87N/Stewart St	5015	1.06	0.97	10.79	55.78	6.09
Langley St	SR 87N/Stewart St	NAS Whiting Field	248	1.06	0.97	10.79	55.78	6.09
Springhill Rd/ Neal Kennington Rd	SR 87N/Stewart St	Lewis Rd	242	1.06	0.97	10.79	55.78	6.09
	Lewis Rd	Munson Hwy						
SR 281/Avalon Blvd	I-10	US 90	215	1.06	0.99	10.79	55.78	6.09
SR 89	US 90	Hamilton Bridge Rd	5017	1.06	0.99	10.79	55.78	3.44
	Hamilton Bridge Rd	Berryhill Rd						
	Berryhill Rd	Park Ave						
	Park Ave	Williard Norris Rd/Magnolia St	5016	1.01	0.99	10.79	55.78	3.44
	Williard Norris Rd/Magnolia St	SR 87N/Stewart St	1506	1.06	0.99	10.79	55.78	3.44
	SR 87N/Stewart St	West	121	1.06	0.96	10.79	55.78	8.13
SR 87N/Stewart St	US 90	Berryhill Rd	5006	1.06	0.89	10.79	55.78	6.09
	Berryhill Rd	Park Ave						
	Park Ave	Raymond Hobbs St	5004	1.06	0.89	10.79	55.78	6.09
	Raymond Hobbs St	SR 89	1508	1.06	0.89	10.79	55.78	6.31
	SR 89	SR 89 North	9937	N/A	0.89	9.68	57.00	4.41
	SR 89 North	Langley St	114	1.06	0.91	10.79	55.78	13.28
	Langley St	Whiting Field Cir	119	1.06	0.91	10.79	55.78	13.28
	Whiting Field Cir	Springhill Rd/Neal K. Rd						
CR 191/Alabama St/ Henry St/Canal St	South of US 90	US 90	5014	0.95	0.99	10.79	55.78	6.09
	US 90	North of US 90	5022	1.03	1.00	10.79	55.78	6.09
CR 191/Broad St/Willing St	US 90	Berryhill Rd	5008	1.03	1.00	10.79	55.78	6.09
	Berryhill Rd	CR 191/Munson Hwy	5007	1.06	0.97	10.79	55.78	6.09
Ward Basin Rd	I-10	South Airport Rd	281	0.98	0.99	10.79	55.78	6.09
	South Airport Rd	US 90	186	1.06	0.97	10.79	55.78	6.09
SR 87S	South of I-10	I-10	271	1.03	0.95	10.79	55.78	6.65
	I-10	US 90	20	0.95	0.95	10.79	55.78	7.87
	US 90	Correction Facility						
CR 191/Munson Hwy	SR 87N/Stewart St	Broad St	5002	1.06	0.97	10.79	55.78	6.09
	Broad St	Munson Ln						
	Munson Ln	Langley St	1501	1.06	0.97	10.79	55.78	6.09
	Langley St	Springhill Rd						
CR 87A/Whiting Field Cir/ East Entrance	Munson Hwy	NAS Whiting Field	247	1.06	0.97	10.79	55.78	6.09


Legend
2009 AADTs
N/A
1 - 10000
10001 - 20000
20001 - 30000
30001 - 40000
Major Roadways
City
Military Bases
Preliminary Area of Influence
EGLIN AIR FORCE BASE
NAS WHITING FIELD
City of Milton
Springhill Rd
Munson Hwy
Eastgate Rd
E Milton Rd
US 90 / SR 10
I-10 / SR 8
SR 87 S
Ward Basin Rd
Garcon Point Rd
Neal Kennington Rd
SR 87 N
Langley St
SR 87 N / Stewart St
Park Ave
SR 89 / Dogwood Dr
Hamilton Bridge Rd
Willard Norris Rd
Berryhill Rd
SR 89
0 0.5 1 2 Miles
N
W
E
S

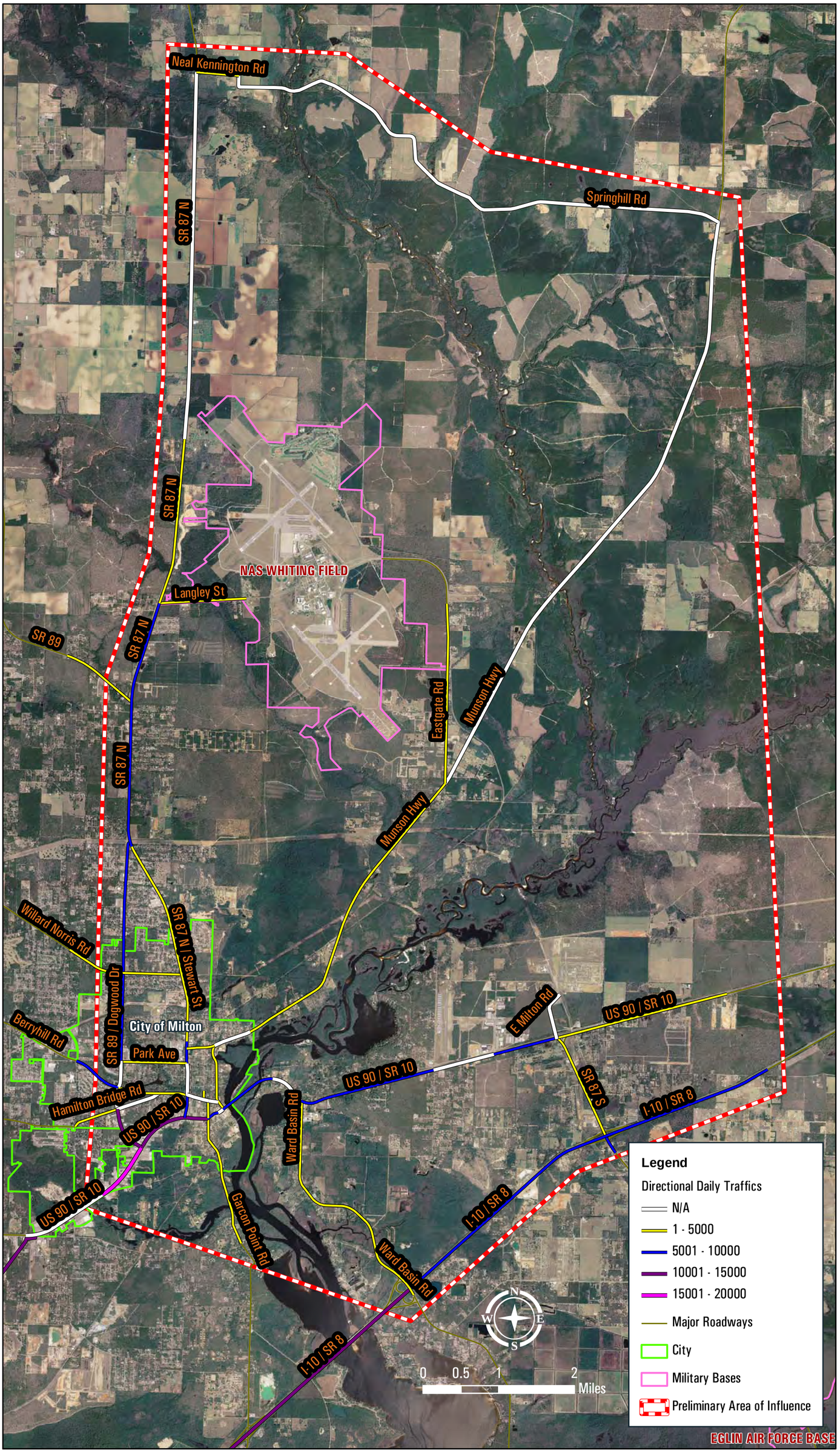


Figure 4-8: 2009 Maximum Directional Annual Daily Traffics

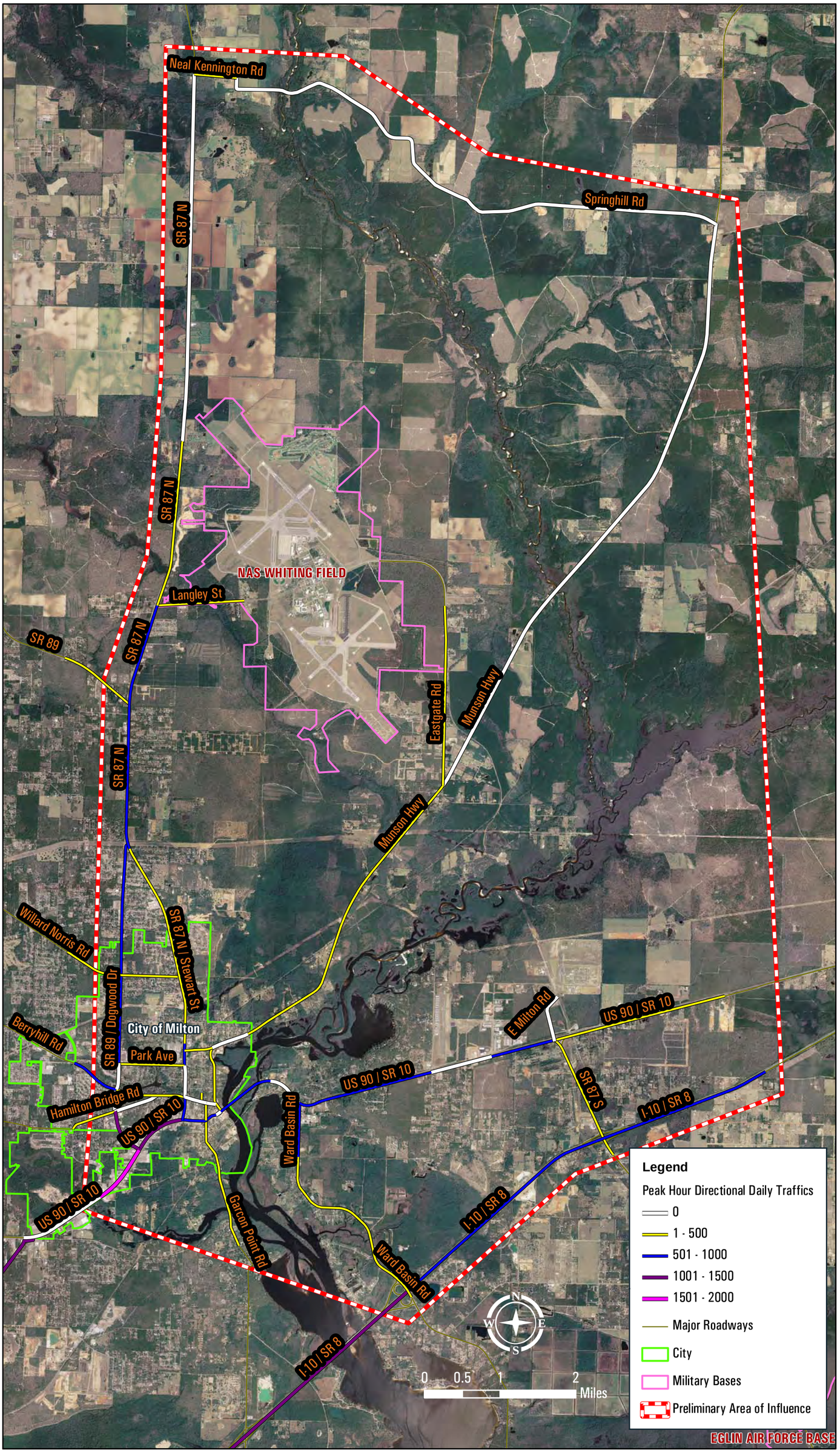


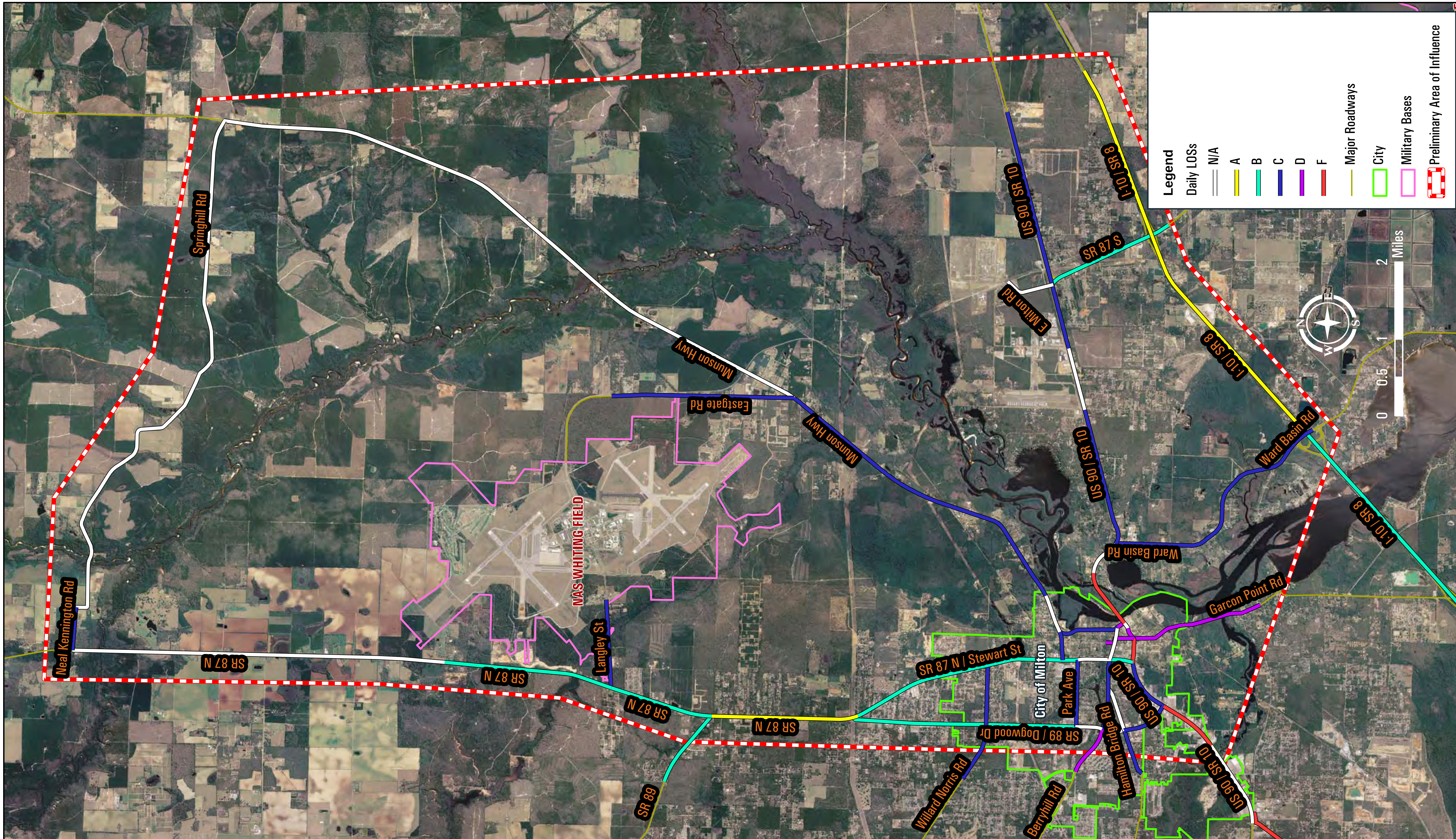
Figure 4-9: 2009 Maximum Directional Peak Hour Traffics

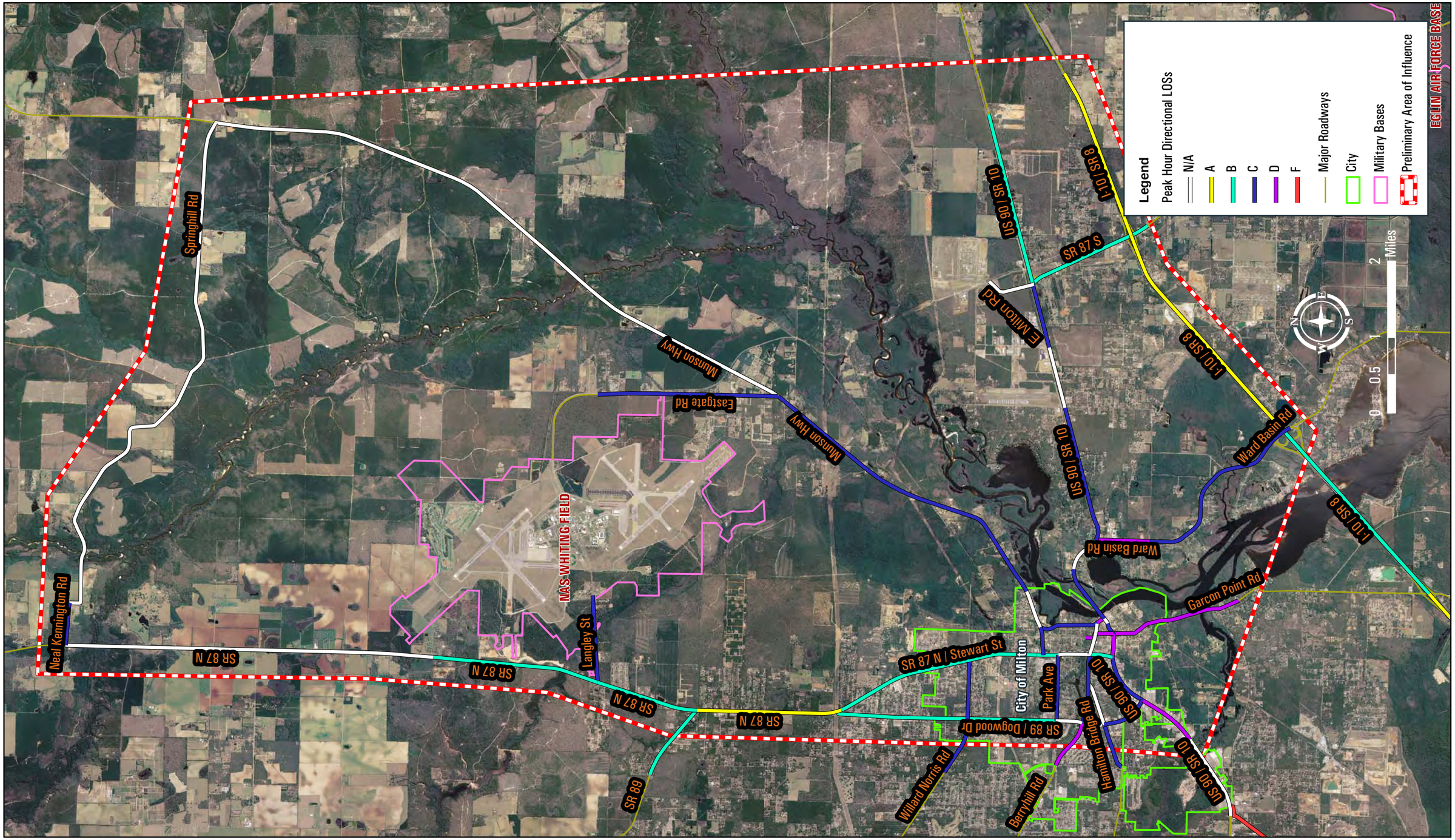
4.3 Existing Roadway Segment Analysis

The existing roadway segment analysis was performed using the 2007 FDOT level of service (LOS) standards (**Appendix II**) consistent with Florida-Alabama TPO Congestion Management Process Plan that was adopted in December 2009.

- Daily LOS: **Figure 4-10** shows the daily LOSs for roadway segments within the study area. Most of the roadway segments are operating at acceptable LOS varying from A to D. The adopted LOS for most roadways is D. Three segments along the US 90 corridor within the study area are operating at LOS F. These segments are: (1) from Glover Lane to SR 89, (2) from SR 87N/Stewart Street to Canal Street; and (3) from Broad Street/Willing Street to Johnson Road/Milton Trail. The segment of SR 281/Avalon Boulevard from I-10 to US 90 is also operating at LOS F.

- Peak Hour Directional LOS: **Figure 4-11** shows the peak hour directional LOS for roadway segments within the study area. Except for SR 281/Avalon Boulevard, the LOS results show that most roadway segments within the PAI are currently operating during the peak hour at acceptable LOS varying from A to D.


Legend
Daily LOSs
N/A
A
B
C
D
F
Major Roadways
City
Military Bases
Preliminary Area of Influence
0 0.5 1 2 Miles
N
E
S
W
EGLIN AIR FORCE BASE
Springhill Rd
Munson Hwy
Eastgate Rd
Munson Hwy
NAS WHITING FIELD
Langley St
Neal Kennington Rd
SR 87 N
SR 87 N
SR 87 N
SR 87 N
SR 89
US 90 / SR 10
US 90 / SR 10
I-10 / SR 8
SR 87 S
E Milton Rd
I-10 / SR 8
Ward Basin Rd
I-10 / SR 8
Ward Basin Rd
Garcon Point Rd
SR 87 N / Stewart St
City of Milton
Park Ave
US 90 / SR 10
SR 89 / Dogwood Dr
Hamilton Bridge Rd
US 90 / SR 10
Willard Norris Rd
Berryhill Rd


Legend
Peak Hour Directional LOSs
N/A
A
B
C
D
F
Major Roadways
City
Military Bases
Preliminary Area of Influence
ECLIN AIR FORCE BASE
Springhill Rd
Munson Hwy
Eastgate Rd
E Milton Rd
US 90 / SR 10
SR 87 S
I-10 / SR 8
Ward Basin Rd
Garcon Point Rd
NAS WHITING FIELD
Langley St
Neal Kennington Rd
SR 87 N
SR 87 N / Stewart St
City of Milton
Park Ave
SR 89 / Dogwood Dr
Willard Norris Rd
Berryhill Rd
Hamilton Bridge Rd
SR 89
0 0.5 1 2 Miles
N
E
S
W

5 Preliminary Review of Alternatives

5.1 Scenarios

This preliminary traffic study evaluated five corridor alternatives to SR 87 Connector in addition to the No Build alternative for the design year 2035. Both the two-lane undivided and four-lane divided roadway configurations were evaluated for each new corridor. The five corridor alternatives are shown in **Figure 5-1**. A brief description of the alternatives is as follows:

- No-Build Alternative: The No-build alternative assumes that no improvements within the PAI will be implemented.

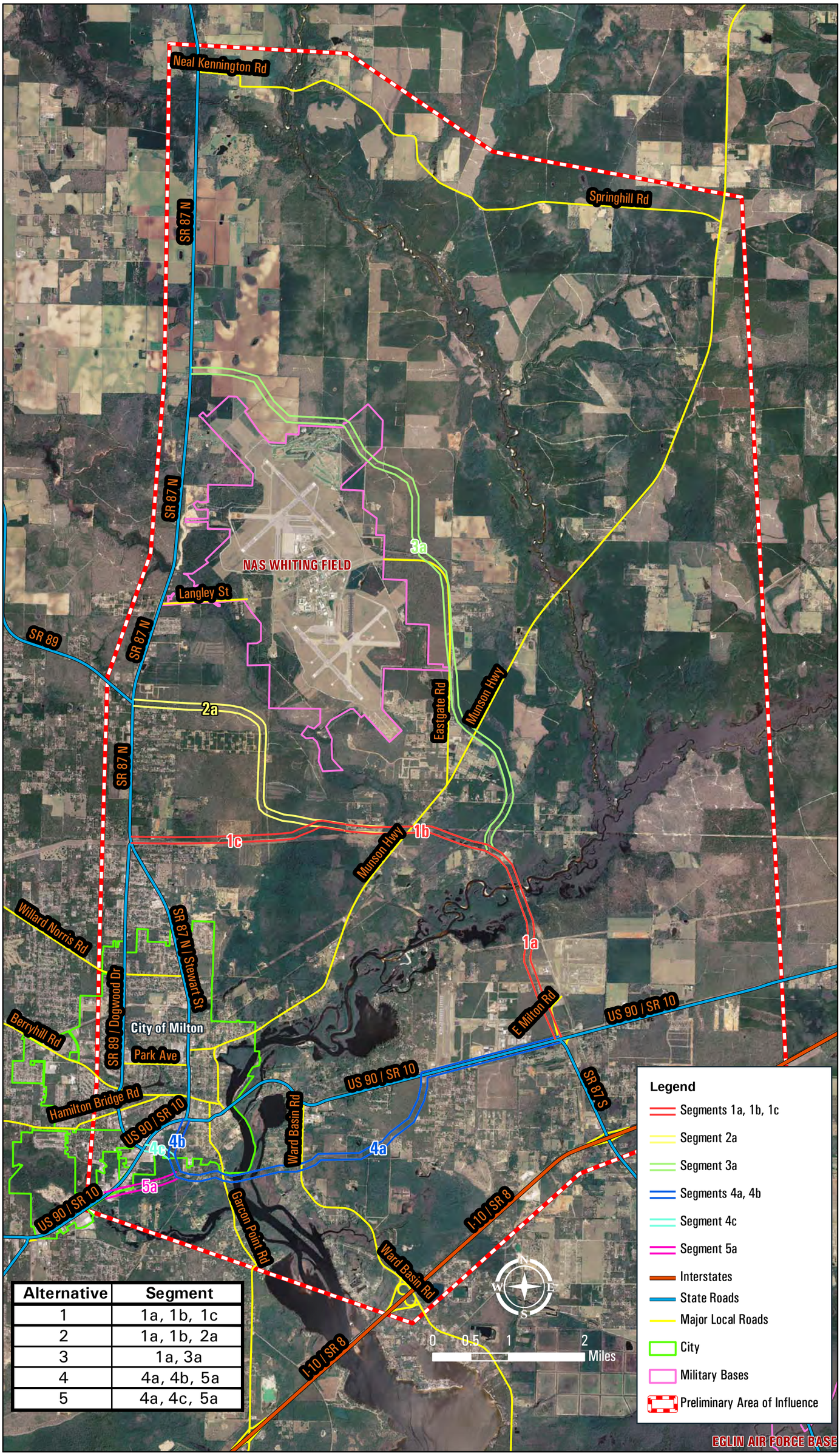
- Alternative 1/Corridor 1: Corridor 1 consists of a new corridor which extends north from the intersection of US 90 and SR 87S and crosses the river in proximity of the existing eastern power easement crossing. It then runs parallel or adjacent to the power easement to finally connect with SR 87N in proximity of the split between SR 87N and SR 89, utilizing the Manning Road right-of-way. Corridor 1 consists of Segments 1a, 1b and 1c and is approximately 6.5 miles in length. Corridor 1 layout is shown in **Figure 5-1**.

- Alternative 2/Corridor 2: Similar to Corridor 1, Corridor 2 extends north from the intersection of US 90 and SR 87S and crosses the river in proximity of the existing eastern power easement crossing. Once across the river it runs slightly north of Corridor 1c, and runs adjacent to the Clear Water Creek environmental lands, where it then heads west to connect with SR 87N in proximity of the northern split of SR 87N and SR 89. Corridor 2 consists of Segments 1a, 1b and 2a and is roughly 7.2 miles in length. Corridor 2 layout is shown in **Figure 5-1**.

- Alternative 3/Corridor 3: Similar to Corridors 1 and 2, Corridor 3 extends north from the intersection of US 90 and SR 87S and crosses the river to the east of the existing power easement crossing. The corridor proceeds north on the east side of Whiting Field possibly utilizing portions of the Pat Brown Road's right-of-way. North of Whiting Field, the corridor traverses a narrow gap between the Nature Conservancy/Florida Forever Lands and Whiting Field and then rejoins with SR 87N north of Whiting Field and south of Southridge Road. Corridor 3 consists of Segments 1a and 3a and is roughly 10.5 miles in length. Corridor 3 layout is shown in **Figure 5-1**.

- Alternative 4/Corridor 4: Corridor 4 west of SR 87S lies mostly within the existing US 90 right-of-way for a distance of about 1.6 miles then uses a new separate right of way and requires a new river crossing between Bagdad and Milton. The shared segment between US 90 and SR 87 will be widened to 4 lanes within the exiting right of way. The new SR 87 road reconnects with SR 87N at the intersection of US 90 and SR 87N. The western end of this corridor near SR 87N shares the right-of-way of the Blackwater Heritage Trail and incorporates a trail into the roadways cross section. Except for the shared segment along US 90,

Figure 5-1: Proposed Alternatives



Alternative	Segment
1	1a, 1b, 1c
2	1a, 1b, 2a
3	1a, 3a
4	4a, 4b, 5a
5	4a, 4c, 5a

Figure 5-1: Proposed Alternatives

the corridor is planned as a two-lane undivided or a four-lane divided roadway. Corridor 4 consists of Segments 4a and 4b and is approximately 5.0 miles in length. Please note that Segment 5a could be added to Corridor 4 as a spur connection for additional connectivity. Corridor 4 layout is shown in **Figure 5-1**.

- Alternative 5/Corridor 5: Similar to Corridor 4, Corridor 5 requires a new river crossing between Bagdad and Milton. This southern corridor generally heads west from SR 87S using a portion of the US 90 right-of-way that can be widened to a 4-lane roadway segment, and reconnects with SR 89 at the intersection of US 90 and SR 89. Except for the shared segment along US 90, the corridor is planned as a two-lane undivided or a four-lane divided roadway. Corridor 5 consists of Segments 4a and 4b and is approximately 5.0 miles in length. Please note that Segment 5a could be added to Corridor 5 as a spur connection for additional connectivity. Corridor 5 layout is shown in **Figure 5-1**.

5.2 Development of Design Year (2035) Traffic Volumes

The project traffic for the design year 2035 was developed based on the draft 2035 Cost Feasible North West Florida Regional Planning Model (NWFRPM). The model is being developed by PBS&J for FDOT District 3 and the West Florida Regional Planning Council (WFRPC). Although the 2035 Cost Feasible NWFRPM is in a draft format and will be adopted later in 2010, the model reflects the latest cost feasible developments in 2035.

5.3 Design Year (2035) Traffic Volumes and Daily Level of Service (LOS)

Since most regional travel demand models in Florida forecast Peak Season Weekday Average Daily Traffic (PSWADT) volumes, Model Output Conversion Factors (MOCFs) are typically applied to convert PSWADT to AADT. This conversion step has already been integrated into the NWFRPM.

Two-lane undivided roadway configuration:
Table 5-1 shows for each roadway segment of every alternative the 2035 project AADTs, maximum service volume (capacity) based on the adopted LOS and the 2007 FDOT Generalized LOS Tables, as well as the volume/capacity ratios. Model output plots depicting daily AADT volumes within the study area are provided in **Appendix III**.

As previously mentioned in Section 4.3, the 2007 FDOT level of service (LOS) standards were used to evaluate roadway's levels of service for the design year (2035). **Figures 5-2 to 5-7** show the design year (2035) daily LOSs for each alternative. The analysis indicates that the SR 87 Connector is attracting significant traffic and therefore redistributing traffic within the study area. Compared with the No Build alternative, all five SR 87 Connector corridors will improve the failing segments of US 90 between Ward Basin Road and SR 87S to a LOS D or better. The failing segments on US 90 west of Dale Street/Ward Basin Road will still not operate at an acceptable LOS, however, traffic volumes will decrease significantly on certain segments. Likewise, traffic volumes at some constrained and failing roadway segments within Milton downtown will decrease though these roadway segments will remain operating at a failing LOS.

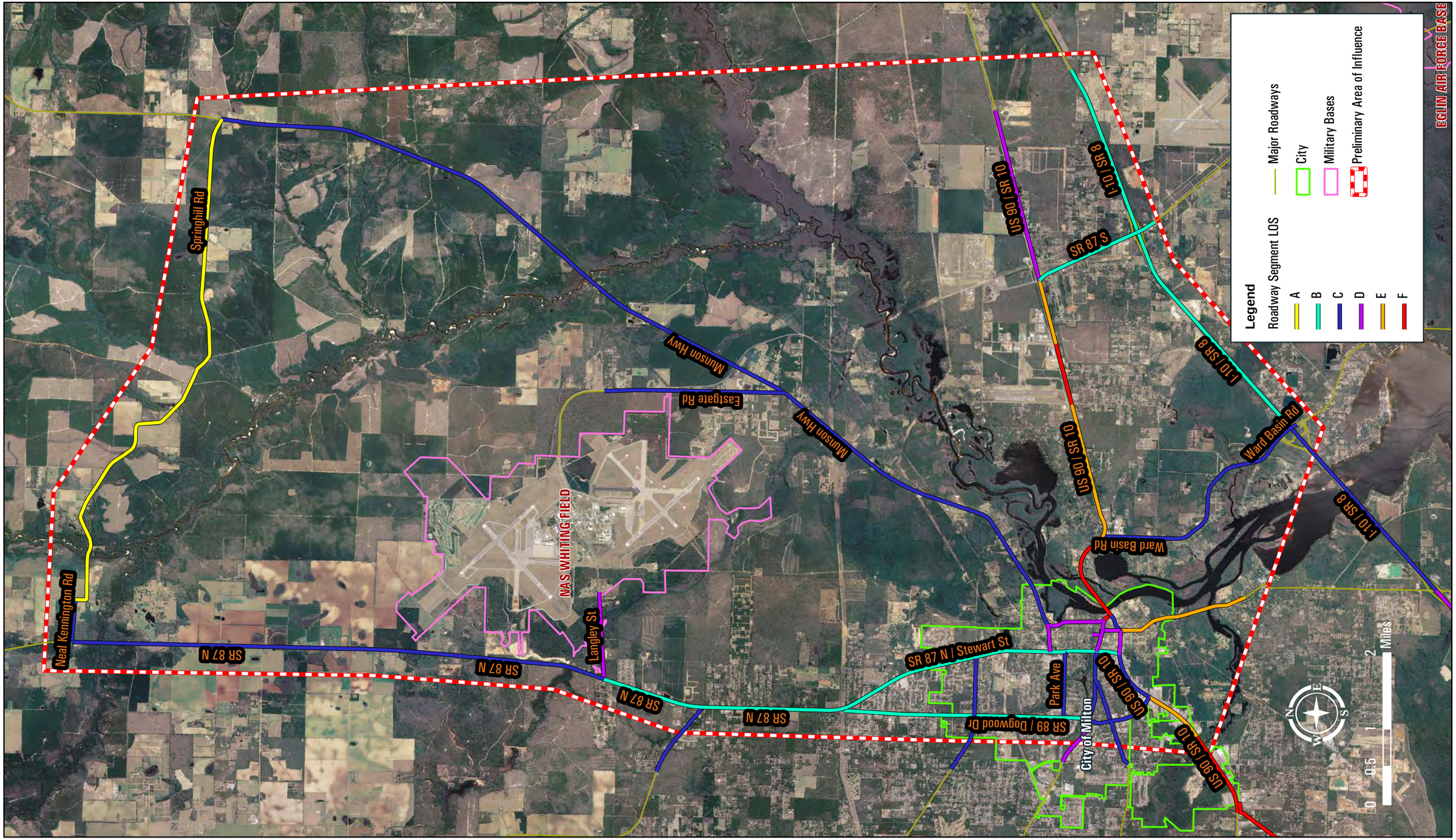
Table 5-1: Design Year (2035) AADTs and V/C Ratios for Each Alternative (2-lane Undivided Configuration)

Roadway	From	To	Capacity	No-Build		Alt 1/Corridor 1		Alt 2/Corridor 2		Alt 3/Corridor 3		Alt 4/Corridor 4		Alt 5/Corridor 5	
				AADT	V/C	AADT	V/C	AADT	V/C	AADT	V/C	AADT	V/C	AADT	V/C
I-10	Avalon Blvd	Garcon Point Rd	55,200	55,500	1.01	55,500	1.01	55,500	1.01	55,500	1.01	55,000	1.00	55,500	1.01
	Garcon Point Rd	Ward Basin Rd	55,200	45,000	0.82	44,500	0.81	45,000	0.82	45,000	0.82	42,500	0.77	43,000	0.78
	Ward Basin Rd	SR 87S	55,200	38,000	0.69	33,500	0.61	34,000	0.62	35,000	0.63	36,000	0.65	35,000	0.63
	SR 87S	Log Lake Rd	52,500	24,500	0.47	25,500	0.49	25,500	0.49	26,000	0.50	24,500	0.47	24,500	0.47
US 90	Avalon Blvd	Parkmore Plaza	32,700	44,000	1.35	43,000	1.31	43,000	1.31	43,000	1.31	44,000	1.35	43,500	1.33
	Parkmore Plaza	Glover Ln	32,700	45,000	1.38	44,500	1.36	44,500	1.36	44,000	1.35	45,500	1.39	45,000	1.38
	Glover Ln	SR 89	32,700	33,500	1.02	34,000	1.04	34,500	1.06	34,000	1.04	31,500	0.96	31,000	0.95
	SR 89	SR 87N	32,700	15,500	0.47	16,500	0.50	16,500	0.50	16,500	0.50	14,000	0.43	11,000	0.34
	SR 87N	Canal St	16,400	15,500	0.95	14,500	0.88	15,000	0.91	14,000	0.85	7,600	0.46	11,500	0.70
	Canal St	Elmira St	16,400	12,500	0.76	12,500	0.76	12,000	0.73	12,000	0.73	6,700	0.41	5,800	0.35
	Elmira St	Broad St/Willing St	16,400	12,000	0.73	12,000	0.73	12,000	0.73	12,000	0.73	6,400	0.39	5,500	0.34
	Broad St/Willing St	Johnson Rd/Milton Tr	16,400	29,500	1.80	23,500	1.43	23,500	1.43	24,500	1.49	22,000	1.34	21,000	1.28
	Johnson Rd/Milton Tr	Dale St/W Basin Rd	16,400	27,000	1.65	21,000	1.28	21,000	1.28	22,000	1.34	19,500	1.19	18,500	1.13
	Dale St/Ward Basin Rd	Airport Rd	16,400	16,500	1.01	11,000	0.67	11,500	0.70	13,500	0.82	15,500	0.95	14,500	0.88
	Airport Rd	Industrial Blvd	16,400	18,000	1.10	12,500	0.76	13,000	0.79	14,500	0.88	20,000	0.59	20,500	0.60
	Industrial Blvd	SR 87S	16,400	16,500	1.01	12,000	0.73	12,500	0.76	14,000	0.85	18,500	0.55	19,500	0.58
	SR 87S	County Line	16,400	14,000	0.85	14,000	0.85	14,000	0.85	14,000	0.85	14,000	0.85	14,000	0.85
H Bridge Rd	Glover Ln	SR 89	14,600	4,800	0.33	4,700	0.32	4,700	0.32	4,700	0.32	4,900	0.34	6,000	0.41
	SR 89	Berryhill Rd	14,600	2,300	0.16	2,600	0.18	2,500	0.17	2,500	0.17	1,700	0.12	1,900	0.13
	SR 89														
Berryhill Rd	Glover Ln	SR 89	14,600	9,300	0.64	9,700	0.66	10,000	0.68	9,700	0.66	10,500	0.72	10,000	0.68
	SR 89	SR 87N	14,600	8,400	0.58	8,600	0.59	8,600	0.59	8,500	0.58	9,900	0.68	6,500	0.45
	SR 87N	Canal St	14,600	13,500	0.92	12,000	0.82	11,500	0.79	11,500	0.79	9,200	0.63	10,500	0.72
	Canal St	Broad St	14,600	9,800	0.67	7,200	0.49	7,700	0.53	6,900	0.47	10,500	0.72	11,500	0.79
Park Ave	SR 89	SR 87N	14,600	1,500	0.10	1,500	0.10	1,500	0.10	1,500	0.10	1,800	0.12	1,600	0.11
W Norris Rd/ Magnolia St	Northrop Rd	SR 89	21,300	9,600	0.45	9,800	0.46	9,600	0.45	9,200	0.43	9,700	0.46	9,900	0.46
	SR 89	SR 87N	14,600	7,500	0.51	7,100	0.49	7,700	0.53	8,000	0.55	7,200	0.49	6,000	0.41
Langley St	SR 87N	NAS Whiting Field	14,600	11,000	0.75	11,000	0.75	11,000	0.75	11,000	0.75	11,000	0.75	11,000	0.75
Springhill Rd	SR 87N	Lewis Rd	9,400	1,400	0.15	1,300	0.14	1,300	0.14	1,300	0.14	1,400	0.15	1,400	0.15
	Lewis Rd	Munson Hwy	21,100	300	0.01	200	0.01	250	0.01	200	0.01	300	0.01	300	0.01
Avalon Blvd	I-10	US 90	16,400	18,000	1.10	16,500	1.01	17,000	1.04	16,500	1.01	16,500	1.01	16,000	0.98
SR 89	US 90	H Bridge Rd	32,700	23,000	0.70	22,000	0.67	22,500	0.69	22,000	0.67	23,000	0.70	28,500	0.87
	H Bridge Rd	Berryhill Rd	32,700	23,000	0.70	22,500	0.69	22,500	0.69	22,500	0.69	22,500	0.69	28,000	0.86
	Berryhill Rd	Park Ave	35,700	25,000	0.70	23,500	0.66	23,500	0.66	23,500	0.66	25,000	0.70	27,000	0.76
	Park Ave	W Norris Rd/Magnolia St	35,700	22,000	0.62	20,500	0.57	20,500	0.57	20,500	0.57	21,500	0.60	24,000	0.67
	W Norris Rd/Magnolia St	SR 87N	35,700	14,000	0.39	13,500	0.38	13,000	0.36	13,000	0.36	13,500	0.38	14,500	0.41
	SR 87N	West	21,300	10,000	0.47	11,500	0.54	12,000	0.56	5,400	0.25	10,000	0.47	9,700	0.46
SR 87N	US 90	Berryhill Rd	35,700	16,000	0.45	12,500	0.35	13,000	0.36	12,500	0.35	24,500	0.69	17,000	0.48
	Berryhill Rd	Park Ave	35,700	23,000	0.64	17,500	0.49	18,000	0.50	17,000	0.48	25,000	0.70	23,500	0.66
	Park Ave	Raymond Hobbs St	35,700	24,500	0.69	16,500	0.46	17,000	0.48	17,500	0.49	25,500	0.71	23,000	0.64
	Raymond Hobbs St	SR 89	35,700	15,500	0.43	7,400	0.21	7,300	0.20	7,700	0.22	16,500	0.46	14,500	0.41
	SR 89	SR 89 North	61,800	27,000	0.44	29,500	0.48	18,500	0.30	19,000	0.31	27,500	0.44	27,000	0.44
	SR 89 North	Langley St	35,700	16,000	0.45	16,500	0.46	16,500	0.46	13,000	0.36	16,000	0.45	16,000	0.45
	Langley St	Whiting Field Cir	16,400	9,400	0.57	9,600	0.59	9,700	0.59	6,000	0.37	9,500	0.58	9,500	0.58
	Whiting Field Cir	Springhill Rd/Neal K. Rd	15,500	8,300	0.54	8,600	0.55	8,600	0.55	9,900	0.64	8,400	0.54	8,400	0.54
Alabama St/ Henry St/ Canal St	South of US 90	US 90	10,000	11,500	1.15	10,500	1.05	10,500	1.05	10,500	1.05	2,500	0.25	8,400	0.84
	US 90	North of US 90	10,000	5,700	0.57	6,000	0.60	5,300	0.53	6,000	0.60	1,400	0.14	1,800	0.18
Broad St/ Willing St	US 90	Berryhill Rd	10,000	17,500	1.75	11,500	1.15	12,000	1.20	13,000	1.30	16,000	1.60	16,000	1.60
	Berryhill Rd	Munson Hwy	10,000	9,600	0.96	5,400	0.54	5,300	0.53	7,100	0.71	8,100	0.81	7,200	0.72
W Basin Rd	I-10	South Airport Rd	14,600	8,100	0.55	7,300	0.50	7,200	0.49	6,500	0.45	12,500	0.86	13,000	0.89
	South Airport Rd	US 90	14,600	7,200	0.49	6,500	0.45	6,400	0.44	5,700	0.39	1,600	0.11	1,600	0.11
SR 87S	South of I-10	I-10	35,700	21,000	0.59	21,000	0.59	21,500	0.60	21,000	0.59	20,500	0.57	20,500	0.57
	I-10	US 90	35,700	13,500	0.38	21,000	0.59	21,000	0.59	22,500	0.63	14,500	0.41	15,000	0.42
	US 90	Correction Facility							N/A						
Munson Hwy	SR 87 N	Broad St	14,600	9,200	0.63	5,300	0.36	5,300	0.36	7,100	0.49	7,700	0.53	6,600	0.45
	Broad St	Munson Ln	14,600	3,200	0.22	1,500	0.10	1,600	0.11	1,500	0.10	3,200	0.22	3,200	0.22
	Munson Ln	CR 87 A	14,600	3,800	0.26	1,900	0.13	2,100	0.14	1,900	0.13	3,800	0.26	3,800	0.26
	CR 87 A	Springhill Rd	13,600	1,700	0.13	2,100	0.15	2,000	0.15	2,200	0.16	1,700	0.13	1,700	0.13
Whiting Field Cir	Munson Hwy	NAS Whiting Field	10,000	2,100	0.21	2,100	0.21	2,100	0.21	2,100	0.21	2,100	0.21	2,100	0.21
Alts 1, 2, 3	US 90	Munson Hwy	21,100	N/A		14,500	0.69	14,000	0.66	14,000	0.66	N/A		N/A	
	Munson Hwy	SR 87N	21,100			13,000	0.62	12,500	0.59	12,000	0.57				
Alt 4	US 90	Ward Basin Rd	21,300	N/A		N/A		N/A		N/A		3,400	0.16	N/A	
	Ward Basin Rd	Henry St	21,300									14,500	0.68		
	Henry St	Old US 90	21,300									23,000	1.08		
	Old US 90	SR 87 N	21,300									15,000	0.70		
Seg 5a for Alt 4	Alt 4	US 90	21,300									8,700	0.41		
Alt 5	US 90	Ward Basin Rd	21,300	N/A		N/A		N/A		N/A		N/A		4,800	0.23
	Ward Basin Rd	Henry St	21,300											16,500	0.77
	Henry St	Old US 90	21,300											19,500	0.92
	Old US 90	SR 89	21,300											14,500	0.68
Seg 5a for Alt 5	Alt 5	US 90	21,300											6,900	0.32

Legend

X Over Capacity

Four-lane Undivided Roadway with the Capacity of 33,900 for Alts 4 and 5


EGLIN AIR FORCE BASE
Legend
Roadway Segment LOS
A
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Major Roadways
City
Military Bases
Preliminary Area of Influence
Springhill Rd
Munson Hwy
Eastgate Rd
US 90 / SR 10
I-10 / SR 8
SR 87 S
I-10 / SR 8
Ward Basin Rd
Ward Basin Rd
US 90 / SR 10
I-10 / SR 8
NAS WHITING FIELD
Neal Kennington Rd
SR 87 N
SR 87 N
SR 87 N
SR 87 N
Langley St
SR 87 N / Stewart St
SR 89 / Dogwood Dr
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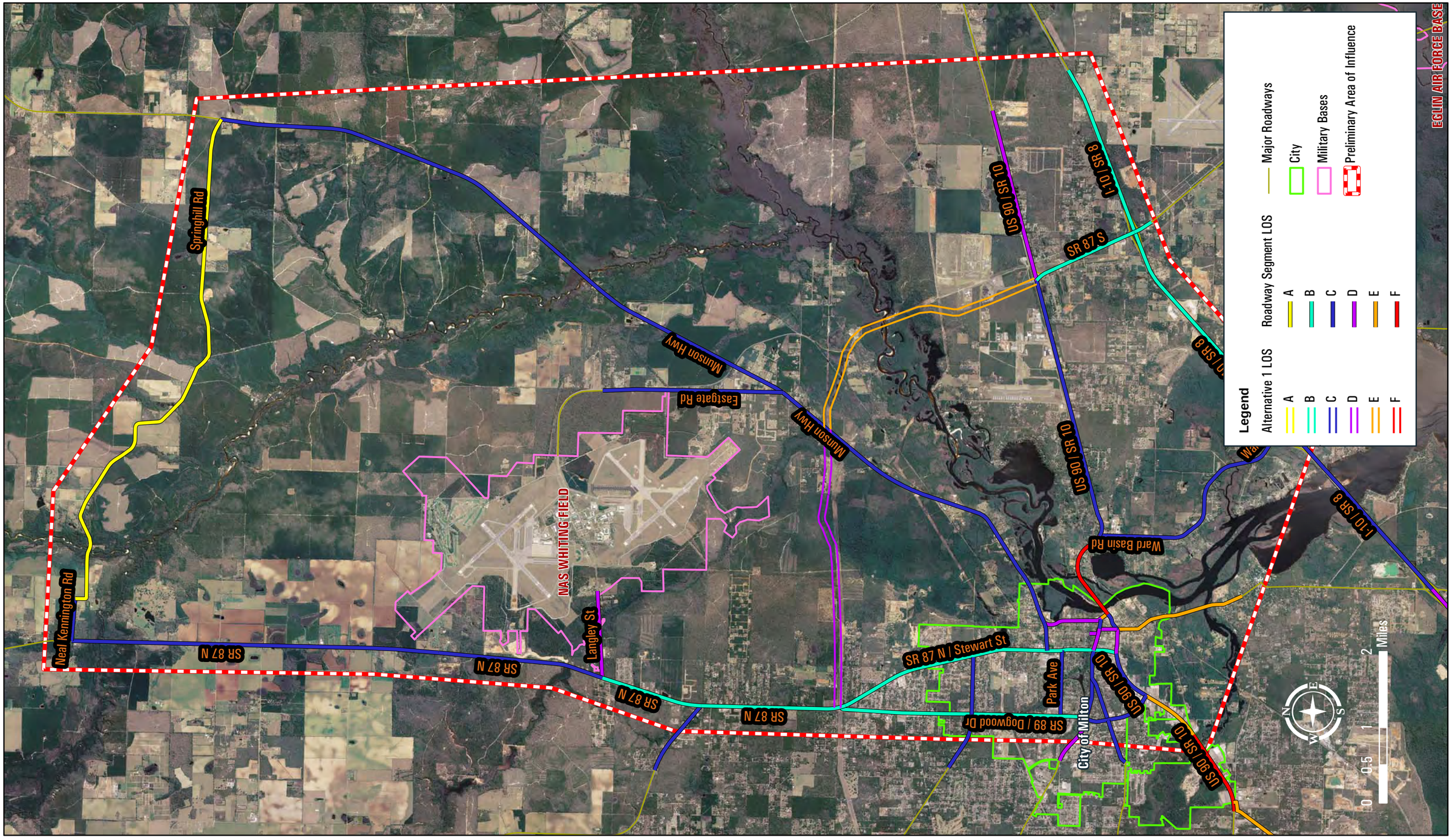
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Eastgate Rd
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EGLIN AIR FORCE BASE
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Alternative 1 LOS
Roadway Segment LOS
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Major Roadways
City
Military Bases
Preliminary Area of Influence
Ward Basin Rd
NAS WHITING FIELD
Langley St
Neal Kemmington Rd
SR 87 N
SR 87 N / Stewart St
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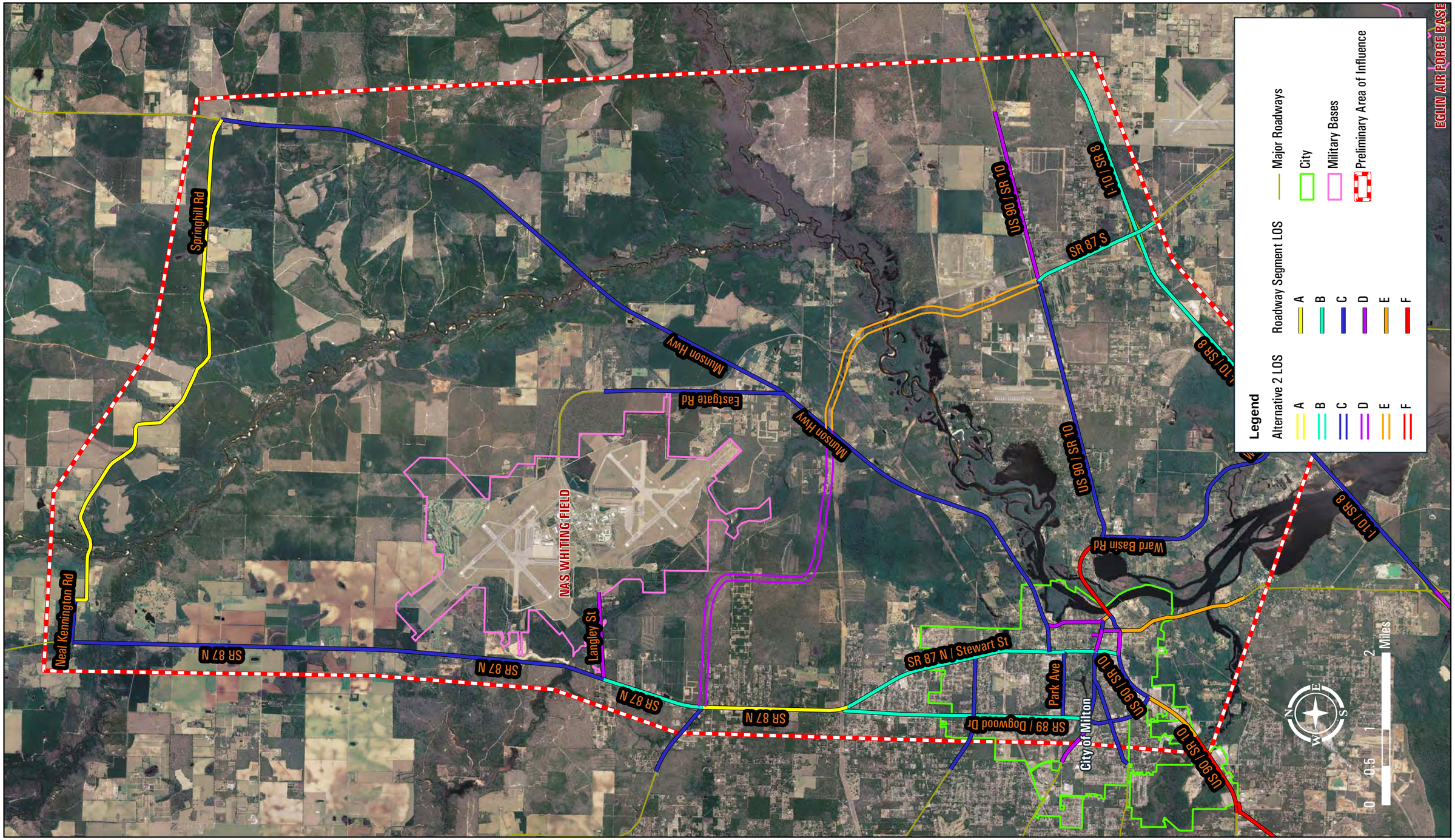
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Springhill Rd
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Eastgate Rd
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SR 87 S
NAS WHITING FIELD
Langley St
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SR 87 N
SR 87 N
SR 87 N
SR 87 N
SR 87 N
SR 87 N | Stewart St
SR 89 / Dogwood Dr
Park Ave
City of Milton
US 90 / SR 10
US 90 / SR 10
Ward Basin Rd
I-10 / SR 8
Legend
Alternative 2 LOS
Roadway Segment LOS
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Major Roadways
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Military Bases
Preliminary Area of Influence
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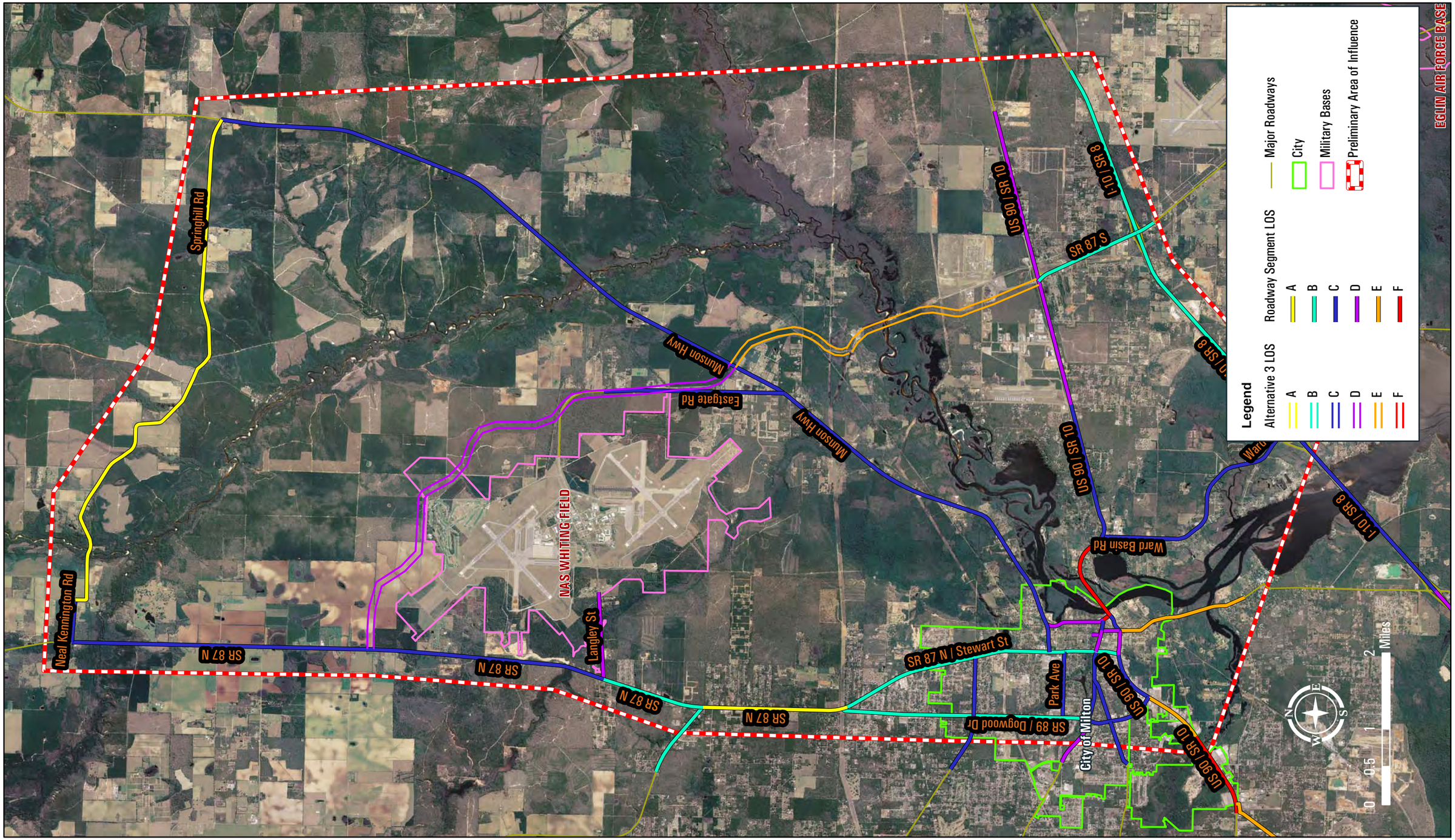
Legend
Alternative 3 LOS
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Roadway Segment LOS
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Major Roadways
City
Military Bases
Preliminary Area of Influence
EGLIN AIR FORCE BASE
Springhill Rd
Munson Hwy
Eastgate Rd
NAS WHITING FIELD
US 90 / SR 10
I-10 / SR 8
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Ward Basin Rd
Neal Kennington Rd
SR 87 N
Langley St
SR 87 N / Stewart St
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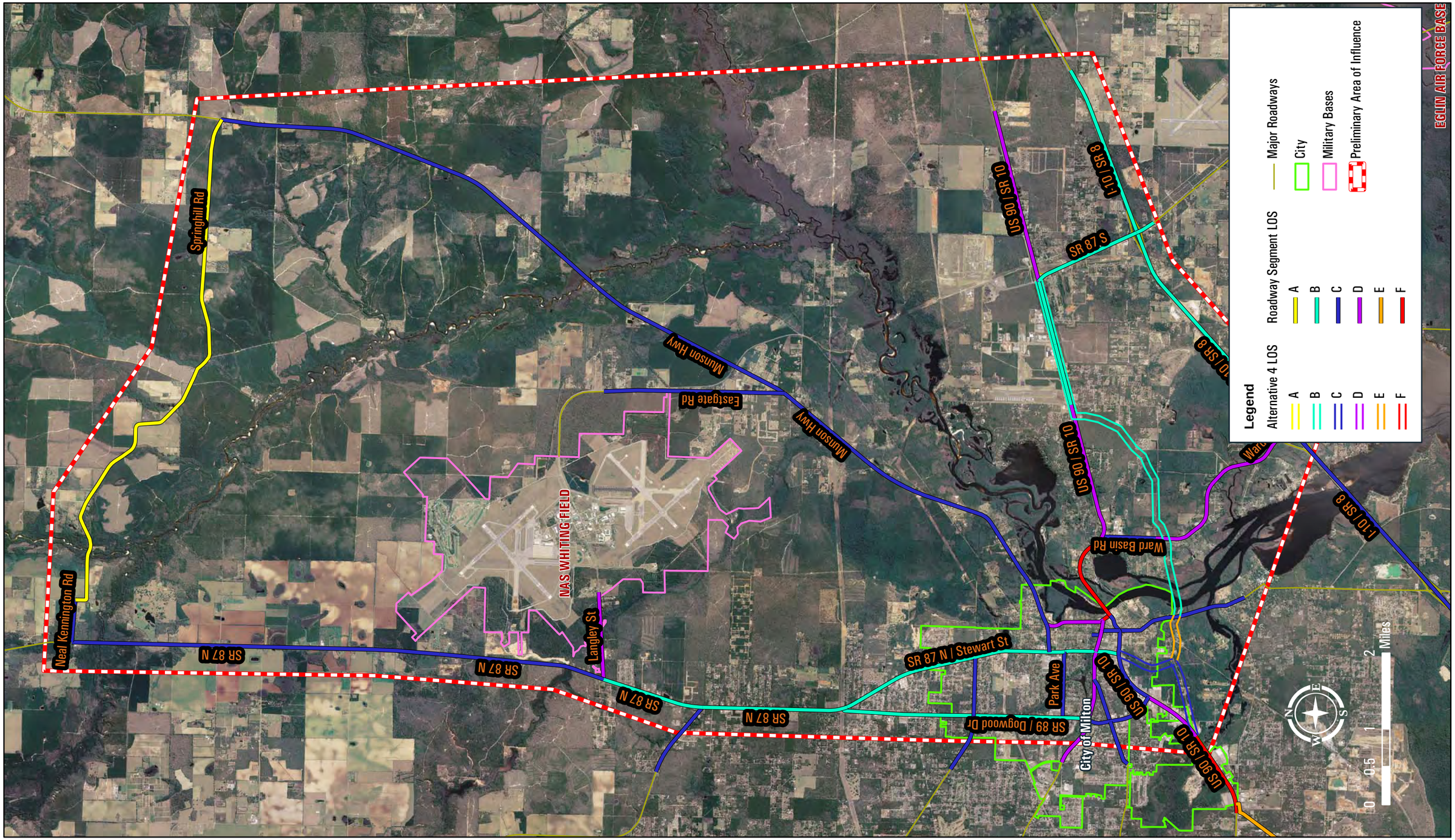
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Roadway Segment LOS
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Major Roadways
City
Military Bases
Preliminary Area of Influence
EGLIN AIR FORCE BASE
Springhill Rd
Munson Hwy
Eastgate Rd
US 90 / SR 10
I-10 / SR 8
SR 87 S
NAS WHITING FIELD
Neal Kennington Rd
SR 87 N
Langley St
SR 87 N / Stewart St
SR 89 / Dogwood Dr
Park Ave
City of Milton
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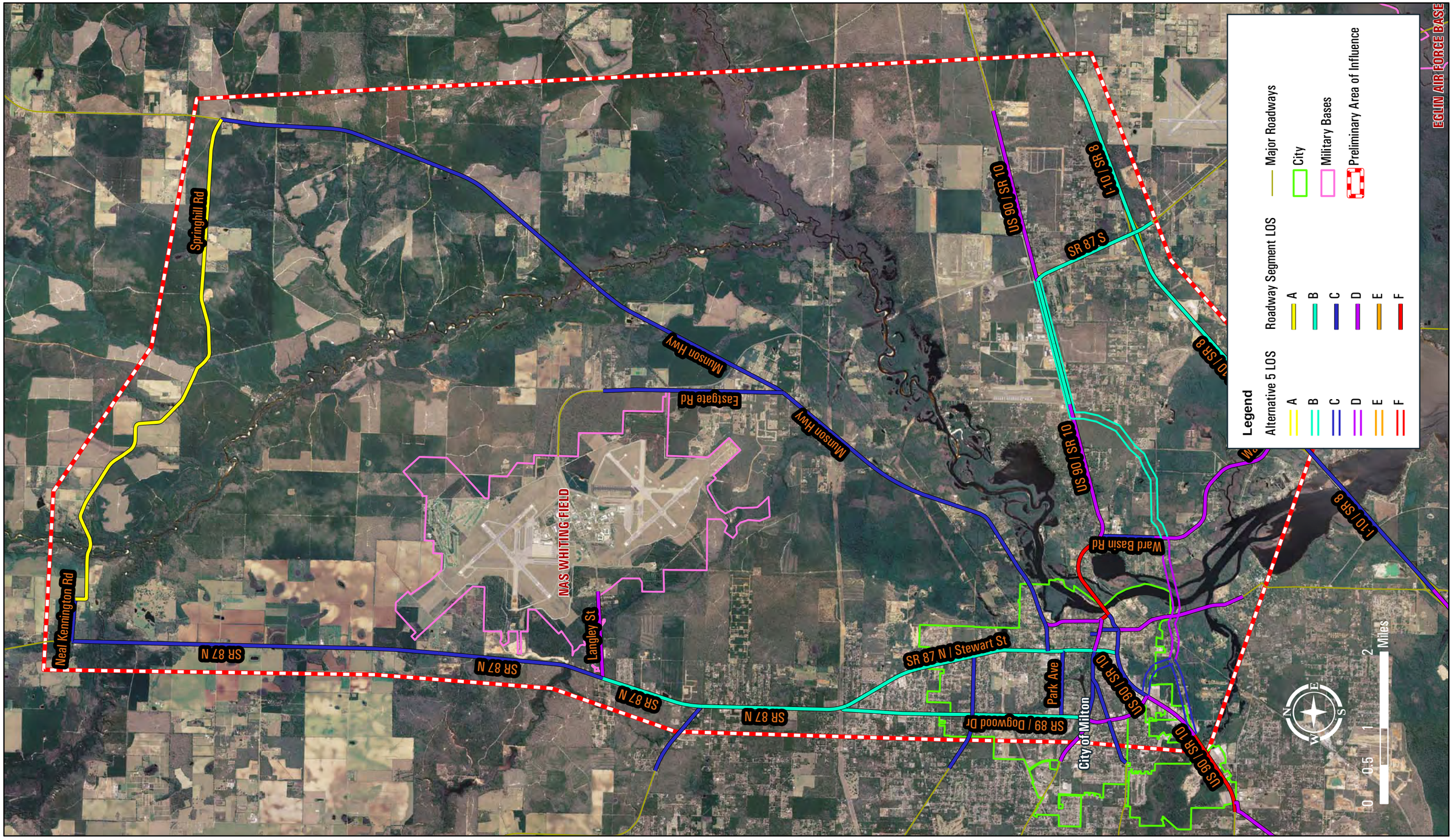
Springhill Rd
Munson Hwy
Eastgate Rd
US 90 / SR 10
I-10 / SR 8
SR 87 S
EGLIN AIR FORCE BASE
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Alternative 5 LOS
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Roadway Segment LOS
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Major Roadways
City
Military Bases
Preliminary Area of Influence
Ward Basin Rd
NAS WHITING FIELD
Langley St
Neal Kennington Rd
SR 87 N
SR 87 N / Stewart St
SR 89 / Dogwood Dr
Park Ave
City of Milton
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Four-lane divided roadway configuration:

Except for Corridors 4 and 5, the project traffic volumes of each segment for all five Build alternatives were almost the same as those with the two-lane undivided roadway configuration for the new corridors. Therefore, the conclusions for the new corridors with the two-lane undivided roadway configuration are also applicable to the four-lane divided roadway configuration. Model output plots depicting daily AADT volumes within the study area are provided in **Appendix III**. However, Corridors 4 and 5 now attract slightly more traffic. **Table 5-2** shows the comparison of the project traffic volumes between the two-lane undivided and four-lane divided roadway configurations for the five Build corridors. **Table 5-3** shows for each roadway segment of every alternative the 2035 project AADTs, maximum service volume (capacity) based on the adopted LOS and the 2007 FDOT Generalized LOS Tables, as well as the volume/capacity ratios.

Table 5-2: Comparison of Project Traffic Volumes (2035) for Five Build Corridors

Corridor	From	To	2-Lane Undivided			4-Lane Divided		
			AADT	V/C	LOS	AADT	V/C	LOS
1								
	US 90	Munson Hwy	14,500	0.69	C	14,500	0.26	A
	Munson Hwy	SR 87N	13,000	0.62	C	13,000	0.23	A
2								
	US 90	Munson Hwy	14,000	0.66	C	14,000	0.25	A
	Munson Hwy	SR 87N	12,500	0.59	C	12,500	0.22	A
3								
	US 90	Munson Hwy	14,000	0.66	C	13,500	0.24	A
	Munson Hwy	SR 87N	12,000	0.57	C	11,500	0.20	A
4								
	US 90	Ward Basin Rd	3,400	0.16	B	3,500	0.06	A
	Ward Basin Rd	Henry St	14,500	0.68	B	16,500	0.27	A
	Henry St	Old US 90	23,000	1.08	E	25,500	0.41	B
	Old US 90	SR 87 N	15,000	0.70	C	16,000	0.26	A
Seg 5a	Corridor 4	US 90	8,700	0.41	C	12,000	0.19	A
5								
	US 90	Ward Basin Rd	4800	0.23	B	4100	0.07	A
	Ward Basin Rd	Henry St	16500	0.77	D	17500	0.28	A
	Henry St	Old US 90	19500	0.92	D	21500	0.35	B
	Old US 90	SR 89	14500	0.68	C	11500	0.19	A
Seg 5a	Corridor 5	US 90	6900	0.32	C	12000	0.19	A

Table 5-3: Design Year (2035) AADTs and V/C Ratios for Each Alternative (4-lane Divided Configuration)

Roadway	From	To	Capacity	No-Build		Alt 1/Corridor 1		Alt 2/Corridor 2		Alt 3/Corridor 3		Alt 4/Corridor 4		Alt 5/Corridor 5	
				AADT	V/C	AADT	V/C	AADT	V/C	AADT	V/C	AADT	V/C	AADT	V/C
I-10	Avalon Blvd	Garcon Point Rd	55,200	55,500	1.01	55,500	1.01	55,000	1.00	55,500	1.01	56,000	1.01	55,500	1.01
	Garcon Point Rd	Ward Basin Rd	55,200	45,000	0.82	44,500	0.81	44,500	0.81	45,000	0.82	43,500	0.79	43,000	0.78
	Ward Basin Rd	SR 87S	55,200	38,000	0.69	33,500	0.61	34,000	0.62	35,500	0.64	36,500	0.66	36,000	0.65
	SR 87S	Log Lake Rd	52,500	24,500	0.47	25,500	0.49	25,500	0.49	26,000	0.50	25,000	0.48	24,500	0.47
US 90	Avalon Blvd	Parkmore Plaza	32,700	44,000	1.35	43,000	1.31	42,500	1.30	43,000	1.31	44,500	1.36	44,000	1.35
	Parkmore Plaza	Glover Ln	32,700	45,000	1.38	44,500	1.36	44,500	1.36	44,500	1.36	46,500	1.42	46,000	1.41
	Glover Ln	SR 89	32,700	33,500	1.02	34,500	1.06	34,000	1.04	34,500	1.06	30,500	0.93	29,500	0.90
	SR 89	SR 87N	32,700	15,500	0.47	16,500	0.50	16,500	0.50	16,500	0.50	12,000	0.37	11,000	0.34
	SR 87N	Canal St	16,400	15,500	0.95	14,500	0.88	15,000	0.91	14,500	0.88	5,900	0.36	10,000	0.61
	Canal St	Elmira St	16,400	12,500	0.76	12,500	0.76	12,000	0.73	12,000	0.73	5,300	0.32	5,000	0.30
	Elmira St	Broad St/Willing St	16,400	12,000	0.73	12,000	0.73	12,000	0.73	12,000	0.73	5,000	0.30	4,800	0.29
	Broad St/Willing St	Johnson Rd/Milton Tr	16,400	29,500	1.80	23,000	1.40	23,500	1.43	24,000	1.46	20,500	1.25	20,000	1.22
	Johnson Rd/Milton Tr	Dale St/W Basin Rd	16,400	27,000	1.65	20,500	1.25	21,000	1.28	21,500	1.31	18,000	1.10	17,500	1.07
	Dale St/Ward Basin Rd	Airport Rd	16,400	16,500	1.01	11,000	0.67	11,500	0.70	13,500	0.82	14,500	0.88	14,000	0.85
	Airport Rd	Industrial Blvd	16,400	18,000	1.10	12,500	0.76	13,000	0.79	14,500	0.88	19,500	0.52	19,500	0.55
	Industrial Blvd	SR 87S	16,400	16,500	1.01	12,000	0.73	12,500	0.76	14,000	0.85	18,500	0.49	18,500	0.52
	SR 87S	County Line	16,400	14,000	0.85	14,000	0.85	14,000	0.85	14,000	0.85	13,500	0.82	13,500	0.82
H Bridge Rd	Glover Ln	SR 89	14,600	4,800	0.33	4,700	0.32	4,700	0.32	4,700	0.32	4,800	0.33	5,200	0.36
	SR 89	Berryhill Rd	14,600	2,300	0.16	2,600	0.18	2,600	0.18	2,500	0.17	1,700	0.12	1,900	0.13
	SR 89														
Berryhill Rd	Glover Ln	SR 89	14,600	9,300	0.64	10,000	0.68	9,700	0.66	9,900	0.68	11,000	0.75	10,500	0.72
	SR 89	SR 87N	14,600	8,400	0.58	8,700	0.60	8,700	0.60	8,500	0.58	9,900	0.68	6,300	0.43
	SR 87N	Canal St	14,600	13,500	0.92	12,000	0.82	11,000	0.75	11,500	0.79	8,600	0.59	10,000	0.68
	Canal St	Broad St	14,600	9,800	0.67	6,900	0.47	6,800	0.47	6,800	0.47	9,200	0.63	11,000	0.75
Park Ave	SR 89	SR 87N	14,600	1,500	0.10	1,500	0.10	1,500	0.10	1,500	0.10	1,700	0.12	1,600	0.11
W Norris Rd/ Magnolia St	Northrop Rd	SR 89	21,300	9,600	0.45	10,000	0.47	9,500	0.45	9,200	0.43	9,400	0.44	9,800	0.46
	SR 89	SR 87N	14,600	7,500	0.51	7,100	0.49	7,700	0.53	7,800	0.53	6,900	0.47	5,900	0.40
Langley St	SR 87N	NAS Whiting Field	14,600	11,000	0.75	11,000	0.75	11,000	0.75	11,000	0.75	11,000	0.75	11,000	0.75
Springhill Rd	SR 87N	Lewis Rd	9,400	1,400	0.15	1,300	0.14	1,300	0.14	1,300	0.14	1,400	0.15	1,400	0.15
	Lewis Rd	Munson Hwy	21,100	300	0.01	200	0.01	250	0.01	200	0.01	300	0.01	300	0.01
Avalon Blvd	I-10	US 90	16,400	18,000	1.10	16,500	1.01	16,000	0.98	17,000	1.04	16,500	1.01	16,000	0.98
SR 89	US 90	H Bridge Rd	32,700	23,000	0.70	22,000	0.67	22,000	0.67	22,500	0.69	23,500	0.72	29,500	0.90
	H Bridge Rd	Berryhill Rd	32,700	23,000	0.70	22,500	0.69	22,000	0.67	22,500	0.69	22,500	0.69	28,500	0.87
	Berryhill Rd	Park Ave	35,700	25,000	0.70	23,500	0.66	23,500	0.66	24,000	0.67	25,000	0.70	27,500	0.77
	Park Ave	W Norris Rd/Magnolia St	35,700	22,000	0.62	20,500	0.57	20,500	0.57	20,500	0.57	21,500	0.60	24,000	0.67
	W Norris Rd/Magnolia St	SR 87N	35,700	14,000	0.39	13,500	0.38	13,500	0.38	13,500	0.38	13,500	0.38	14,500	0.41
	SR 87N	West	21,300	10,000	0.47	11,500	0.54	12,000	0.56	5,400	0.25	10,000	0.47	9,600	0.45
SR 87N	US 90	Berryhill Rd	35,700	16,000	0.45	12,500	0.35	13,000	0.36	13,000	0.36	24,500	0.69	17,000	0.48
	Berryhill Rd	Park Ave	35,700	23,000	0.64	17,000	0.48	17,000	0.48	17,500	0.49	25,000	0.70	23,000	0.64
	Park Ave	Raymond Hobbs St	35,700	24,500	0.69	16,500	0.46	17,000	0.48	17,500	0.49	25,000	0.70	22,500	0.63
	Raymond Hobbs St	SR 89	35,700	15,500	0.43	7,300	0.20	7,200	0.20	7,700	0.22	16,500	0.46	14,500	0.41
	SR 89	SR 89 North	61,800	27,000	0.44	29,500	0.48	18,500	0.30	19,000	0.31	27,000	0.44	26,500	0.43
	SR 89 North	Langley St	35,700	16,000	0.45	16,500	0.46	16,500	0.46	13,000	0.36	16,000	0.45	16,000	0.45
	Langley St	Whiting Field Cir	16,400	9,400	0.57	9,600	0.59	9,700	0.59	6,200	0.38	9,500	0.58	9,500	0.58
	Whiting Field Cir	Springhill Rd/Neal K. Rd	15,500	8,300	0.54	8,500	0.55	8,600	0.55	10,000	0.65	8,400	0.54	8,400	0.54
Alabama St/ Henry St/ Canal St	South of US 90	US 90	10,000	11,500	1.15	11,000	1.10	11,000	1.10	10,500	1.05	1,900	0.19	7,600	0.76
	US 90	North of US 90	10,000	5,700	0.57	6,600	0.66	5,700	0.57	5,900	0.59	850	0.09	1,400	0.14
Broad St/ Willing St	US 90	Berryhill Rd	10,000	17,500	1.75	11,500	1.15	12,000	1.20	12,500	1.25	16,000	1.60	16,000	1.60
	Berryhill Rd	Munson Hwy	10,000	9,600	0.96	5,500	0.55	6,200	0.62	6,700	0.67	8,100	0.81	7,200	0.72
W Basin Rd	I-10	South Airport Rd	14,600	8,100	0.55	7,100	0.49	7,100	0.49	6,100	0.42	13,500	0.92	14,000	0.96
	South Airport Rd	US 90	14,600	7,200	0.49	6,300	0.43	6,300	0.43	5,200	0.36	2,000	0.14	2,000	0.14
SR 87S	South of I-10	I-10	35,700	21,000	0.59	21,000	0.59	21,000	0.59	21,500	0.60	21,000	0.59	20,000	0.56
	I-10	US 90	35,700	13,500	0.38	21,000	0.59	21,500	0.60	22,500	0.63	14,500	0.41	14,500	0.41
	US 90	Correction Facility							N/A						
Munson Hwy	SR 87 N	Broad St	14,600	9,200	0.63	5,400	0.37	6,200	0.42	6,700	0.46	8,100	0.55	6,700	0.46
	Broad St	Munson Ln	14,600	3,200	0.22	1,500	0.10	1,600	0.11	1,600	0.11	3,200	0.22	3,200	0.22
	Munson Ln	CR 87 A	14,600	3,800	0.26	2,400	0.16	2,600	0.18	1,900	0.13	3,800	0.26	3,800	0.26
	CR 87 A	Springhill Rd	13,600	1,700	0.13	2,100	0.15	2,000	0.15	2,200	0.16	1,700	0.13	1,700	0.13
Whiting Field Cir	Munson Hwy	NAS Whiting Field	10,000	2,100	0.21	2,100	0.21	2,100	0.21	2,100	0.21	2,100	0.21	2,100	0.21
Alts 1, 2, 3	US 90	Munson Hwy	56,500	N/A		14,500	0.26	14,000	0.25	13,500	0.24	N/A		N/A	
	Munson Hwy	SR 87N	56,500			13,000	0.23	12,500	0.22	11,500	0.20				
Alt 4	US 90	Ward Basin Rd	61,800	N/A		N/A		N/A		N/A		3,500	0.06	N/A	
	Ward Basin Rd	Henry St	61,800									16,500	0.27		
	Henry St	Old US 90	61,800									25,500	0.41		
	Old US 90	SR 87 N	61,800									16,000	0.26		
Seg 5a for Alt 4	Alt 4	US 90	61,800									12,000	0.19		
Alt 5	US 90	Ward Basin Rd	61,800	N/A		N/A		N/A		N/A		N/A		4,100	0.07
	Ward Basin Rd	Henry St	61,800											17,500	0.28
	Henry St	Old US 90	61,800											21,500	0.35
	Old US 90	SR 89	61,800											11,500	0.19
Seg 5a for Alt 5	Alt 5	US 90	61,800											12,000	0.19

Legend

X Over Capacity

Four-lane Divided Roadway with the Capacity of 37,500 for Alts 4 and 5

6 Summary

This SR 87 Connector study provides a preliminary traffic evaluation of existing and future conditions for the major roadways located within the project's PAI. The justifications to construct the SR 87 Connector are to improve roadway connectivity, relieve congested segments along US 90, provide a faster and more direct evacuation route without traversing the historic section of downtown Milton, accommodate future growth, and improve safety.

Within or near the study area there are 22 public or private schools, two military bases, and seven existing or proposed industrial parks. The daily LOS analysis for the existing (2009) traffic conditions indicates that all of the roadway segments except four are operating at acceptable LOS varying from A to D. The adopted LOS is D for all roadways within the study area except for I-10 which has an adopted LOS C. Of the four roadway segments operating at LOS F, three segments are along US 90 and one segment is on SR 281/Avalon Boulevard.

The traffic analysis for the design year (2035) was performed for five corridor alternatives in addition to the No-Build alternative for both the two-lane undivided and four-lane divided roadway configurations of the new corridors. The new SR 87 Connector corridor will attract significant traffic, changing traffic patterns in the study area, and partially relieving traffic congestion on US 90 within the study area.

Two-lane undivided roadway configuration:
Compared with the No-Build alternative, all five Build alternatives will improve the failing segments of US 90 between SR 87S and Ward Basin Road to a LOS D or better. The traffic volumes within the failing segments between Ward Basin Road and Broad Street/Willing Street will decrease by 20% to 30% though these segments will remain operating at a failing LOS. The failing segments on US 90 west of Broad Street/Willing Street will experience an insignificant decrease in traffic volumes and will also remain operating at a failing LOS. In addition, traffic volumes will decrease at some constrained and failing roadway segments within Milton downtown area, even though these roadways will remain operating at a failing LOS.

It should be noted that for the regional traffic on SR 87 with no destination in Milton, Corridors 1-3 provide 2.0 to 3.5 miles shorter trip lengths than Corridors 4-5, and save 6 to 8 minutes on each one-way trip assuming no congestion in Downtown Milton. Evacuation time will be significantly shorter due to expected congestion in historic downtown Milton and the constrained roadway capacity. Trucks travel time savings are even greater due to slower speeds. Therefore, the additional benefits of Corridors 1-3 are to reduce traffic in downtown Milton which relieves congestion and improves safety.

The preliminary operational analysis results for segments with Daily LOS E or F are summarized in **Table 6-1**.

Table 6-1: Summary of Roadway Segments with Daily LOS E or F (2-lane Undivided Configuration)

Roadway			Existing					Year 2035											
From		To	Number of Lanes	Adpoted LOS	Capacity (LOS 2007 Tables)	Daily LOS	v/C	No-Build		Alt 1		Alt 2		Alt 3		Alt 4		Alt 5	
								Daily LOS	v/C	Daily LOS	v/C	Daily LOS	v/C	Daily LOS	v/C	Daily LOS	v/C	Daily LOS	v/C
US 90																			
	SR 281/Avalon Blvd	Parkmore Plaza	4	D	32,700	N/A		F	1.35	F	1.31	F	1.31	F	1.31	F	1.35	F	1.33
	Parkmore Plaza	Glover Ln	4	D	32,700			F	1.38	F	1.36	F	1.36	F	1.35	F	1.39	F	1.38
	Glover Ln	SR 89	4	D	32,700	F	1.12	E	1.02	E	1.04	E	1.06	E	1.04	D	0.96	D	0.95
	SR 87N/Stewart Street	Canal Street	2	D	16,400	F	1.10	D	0.95	D	0.88	D	0.91	D	0.85	C	0.46	C	0.70
	Broad St/Willing St	Johnson Rd/Milton Tr	2	D	16,400	F	1.04	F	1.80	F	1.43	F	1.43	F	1.49	F	1.34	F	1.28
	Johnson Rd/Milton Tr	Dale St/Ward Basin Rd	2	D	16,400	N/A		F	1.65	F	1.28	F	1.28	F	1.34	F	1.19	F	1.13
	Dale St/Ward Basin Rd	Airport Rd	2	D	16,400	C	0.79	E	1.01	C	0.67	C	0.70	C	0.82	D	0.95	D	0.88
	Airport Rd	Industrial Blvd	2	D	16,400	N/A		F	1.10	C	0.76	C	0.79	D	0.88	B	0.59	B	0.60
	Industrial Blvd	SR 87S	2	D	16,400	C	0.73	E	1.01	C	0.73	C	0.76	D	0.85	B	0.55	B	0.58
SR 281/Avalon Blvd																			
	I-10	US 90	2	D	16,400	F	1.25	F	1.10	E	1.01	F	1.04	E	1.01	E	1.01	D	0.98
CR 191/Henry St																			
	South of US 90	US 90	2	D	10,000	D	0.72	E	1.15	E	1.05	E	1.05	E	1.05	C	0.25	D	0.84
CR 191/Broad St/Willing St																			
	US 90	Berryhill Rd	2	D	10,000	D	0.82	F	1.75	E	1.15	E	1.20	F	1.30	F	1.60	F	1.60
Alt 4																			
	CR 191/Henry St	Old US 90	2	D	21,300	N/A		N/A								E	1.08	N/A	
Alt 5																			
	CR 191/Henry St	Old US 90	2	D	21,300	N/A		N/A										D	0.92

Legend

X Acceptable LOS

X Unacceptable LOS

Four-lane Undivided Roadway with the Capacity of 33,900 for Alts 4 and 5

Four-lane divided roadway configuration:

Except for Corridors 4 and 5, the project traffic volumes for all five Build alternatives were almost the same as those with the two-lane undivided roadway configuration for the new corridors. Therefore, the conclusions for the new corridors with the two-lane undivided roadway configuration are also applicable to the four-lane divided roadway configuration. **Table 6-2** shows for each roadway segment of every alternative the 2035 project AADTs, maximum service volume (capacity) based on the adopted LOS and the 2007 FDOT Generalized LOS Tables, as well as the volume/capacity ratios. However, Corridors 4 and 5 now attract slightly more traffic. The comparison of the project traffic volumes between the two-lane undivided and four-lane divided roadway configurations for the five Build corridors has been shown in **Table 5-2**.

Table 6-2: Summary of Roadway Segments with Daily LOS E or F (2035) (4-lane Divided Configuration)

Roadway			Existing					Year 2035											
								No-Build		Alt 1		Alt 2		Alt 3		Alt 4		Alt 5	
From		To	Number of Lanes	Adpoted LOS	Capacity (LOS 2007 Tables)	Daily LOS	v/C	Daily LOS	v/C	Daily LOS	v/C	Daily LOS	v/C	Daily LOS	v/C	Daily LOS	v/C	Daily LOS	v/C
US 90																			
	SR 281/Avalon Blvd	Parkmore Plaza	4	D	32,700	N/A		F	1.35	F	1.31	F	1.30	F	1.31	F	1.36	F	1.35
	Parkmore Plaza	Glover Ln	4	D	32,700			F	1.38	F	1.36	F	1.36	F	1.36	F	1.42	F	1.41
	Glover Ln	SR 89	4	D	32,700	F	1.12	E	1.02	E	1.06	E	1.04	E	1.06	D	0.93	D	0.90
	SR 87N/Stewart Street	Canal Street	2	D	16,400	F	1.10	D	0.95	D	0.88	D	0.91	D	0.88	C	0.36	C	0.61
	Broad St/Willing St	Johnson Rd/Milton Tr	2	D	16,400	F	1.04	F	1.80	F	1.40	F	1.43	F	1.46	F	1.25	F	1.22
	Johnson Rd/Milton Tr	Dale St/Ward Basin Rd	2	D	16,400	N/A		F	1.65	F	1.25	F	1.28	F	1.31	F	1.10	F	1.07
	Dale St/Ward Basin Rd	Airport Rd	2	D	16,400	C	0.79	E	1.01	C	0.67	C	0.70	C	0.82	D	0.88	D	0.85
	Airport Rd	Industrial Blvd	2	D	16,400	N/A		F	1.10	C	0.76	C	0.79	D	0.88	B	0.52	B	0.55
	Industrial Blvd	SR 87S	2	D	16,400	C	0.73	E	1.01	C	0.73	C	0.76	D	0.85	B	0.49	B	0.52
SR 281/Avalon Blvd																			
	I-10	US 90	2	D	16,400	F	1.25	F	1.10	E	1.01	F	0.98	E	1.04	E	1.01	D	0.98
CR 191/Henry St																			
	South of US 90	US 90	2	D	10,000	D	0.72	E	1.15	E	1.10	E	1.10	E	1.05	C	0.19	D	0.76
CR 191/Broad St/Willing St																			
	US 90	Berryhill Rd	2	D	10,000	D	0.82	F	1.75	E	1.15	E	1.20	F	1.25	F	1.60	F	1.60

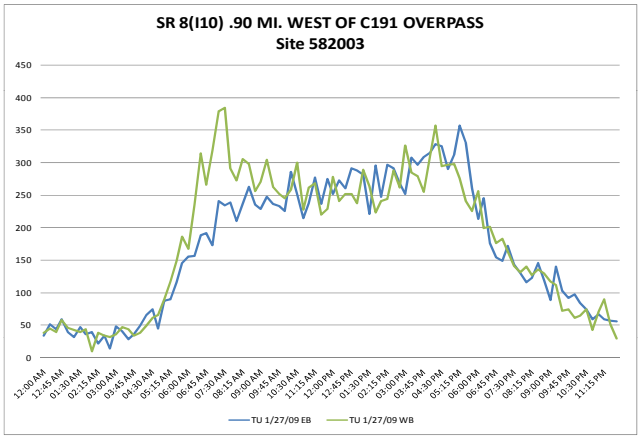
Legend

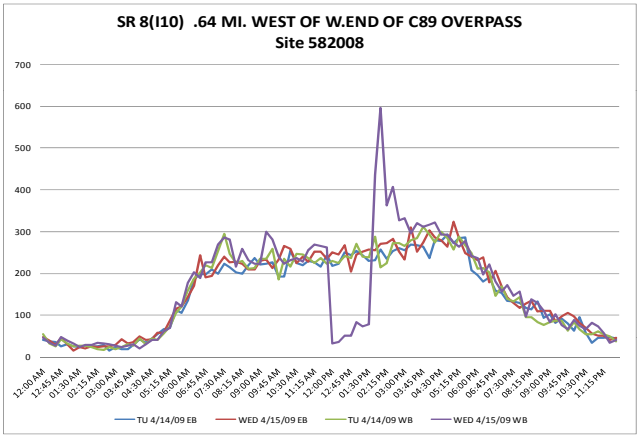
X Acceptable LOS

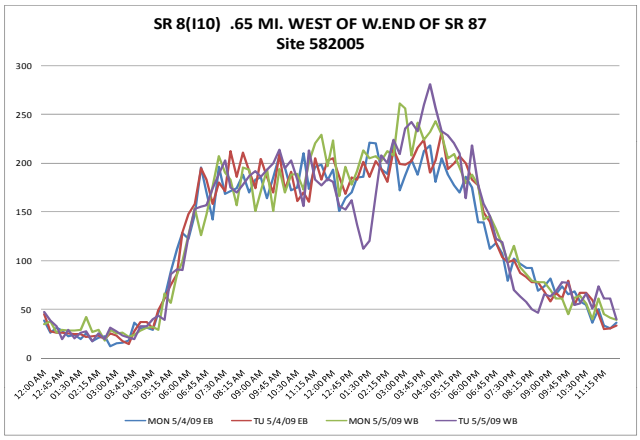
X Unacceptable LOS

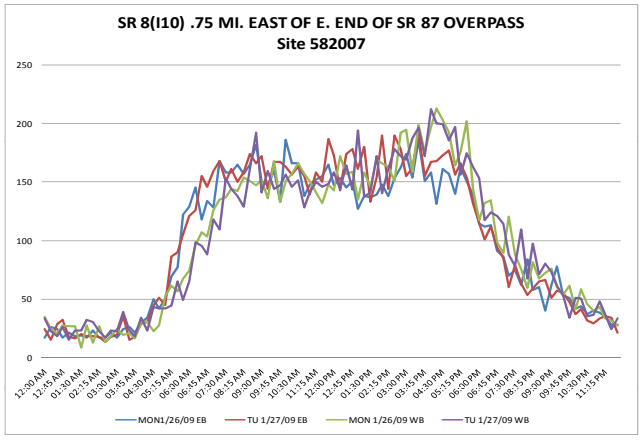
Four-lane Divided Roadway with the Capacity of 37,500 for Alts 4 and 5

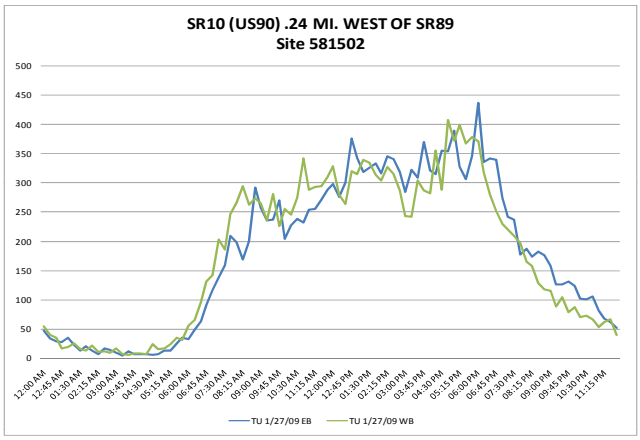
Appendix I:
Hourly Distribution of Weekday Traffic Counts

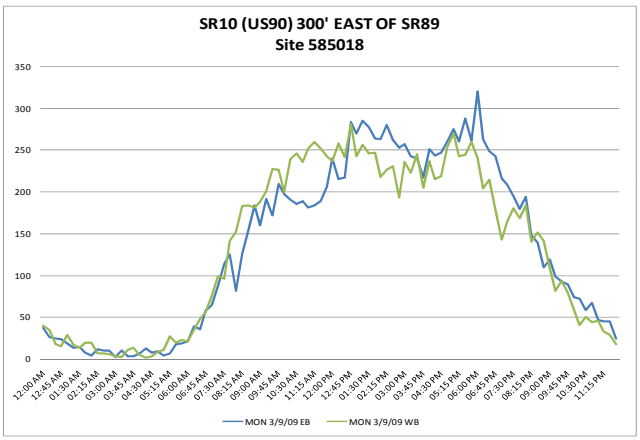

SR 8(I10) .90 MI. WEST OF C191 OVERPASS
Site 582003
TU 1/27/09 EB
TU 1/27/09 WB

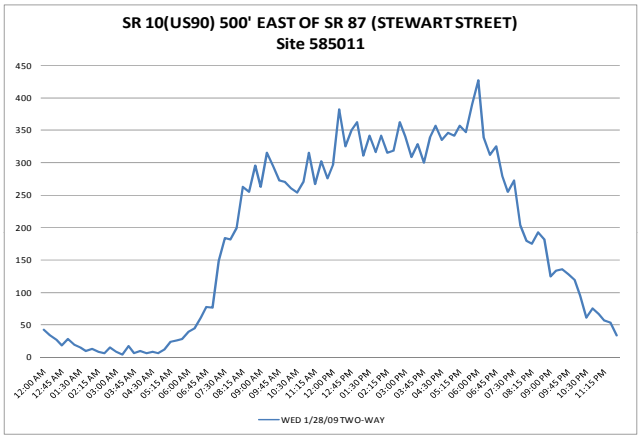

SR 8(I10) .64 MI. WEST OF W.END OF C89 OVERPASS
Site 582008
TU 4/14/09 EB
WED 4/15/09 EB
TU 4/14/09 WB
WED 4/15/09 WB

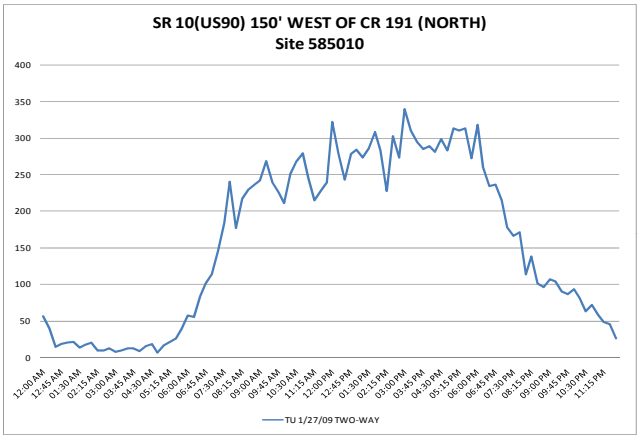

SR 8(I10) .65 MI. WEST OF W.END OF SR 87
Site 582005
MON 5/4/09 EB
TU 5/4/09 EB
MON 5/5/09 WB
TU 5/5/09 WB

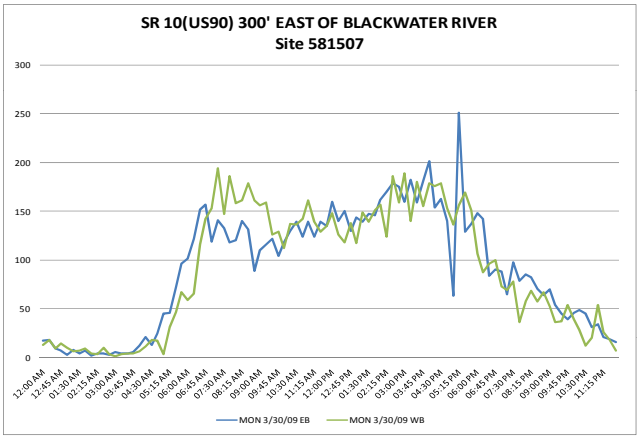

SR 8(I10) .75 MI. EAST OF E. END OF SR 87 OVERPASS
Site 582007
MON1/26/09 EB
TU 1/27/09 EB
MON 1/26/09 WB
TU 1/27/09 WB

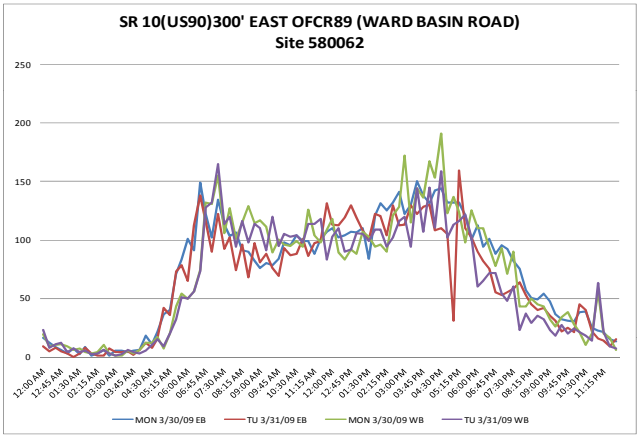

SR10 (US90) .24 MI. WEST OF SR89
Site 581502
TU 1/27/09 EB
TU 1/27/09 WB

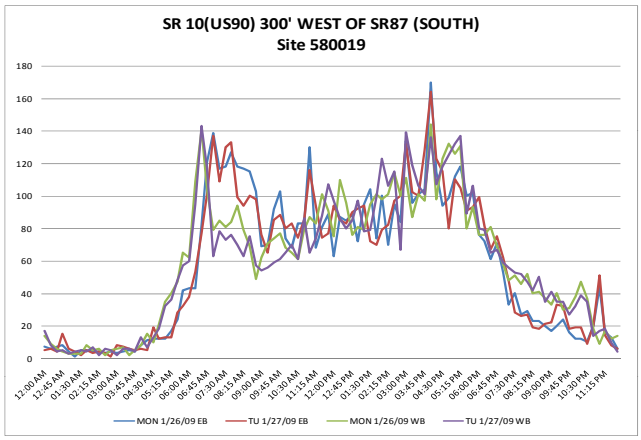

SR10 (US90) 300' EAST OF SR89
Site 585018
MON 3/9/09 EB
MON 3/9/09 WB

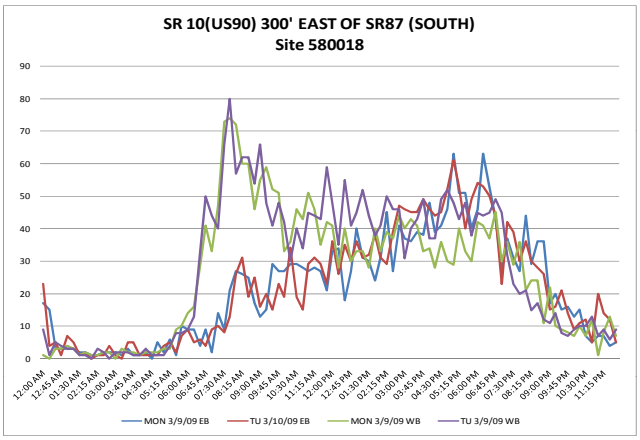

SR 10(US90) 500' EAST OF SR 87 (STEWART STREET)
Site 585011
WED 1/28/09 TWO-WAY

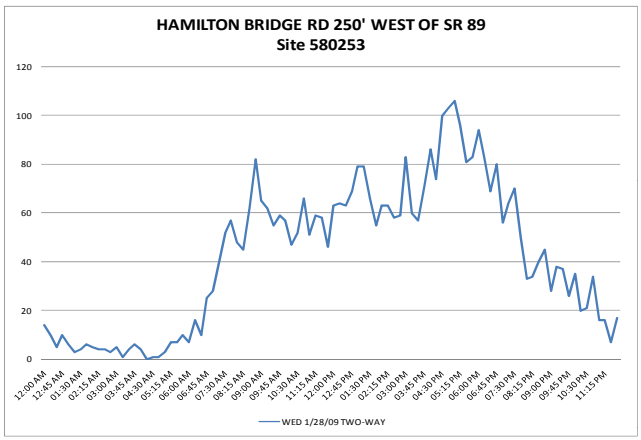

SR 10(US90) 150' WEST OF CR 191 (NORTH)
Site 585010
TU 1/27/09 TWO-WAY

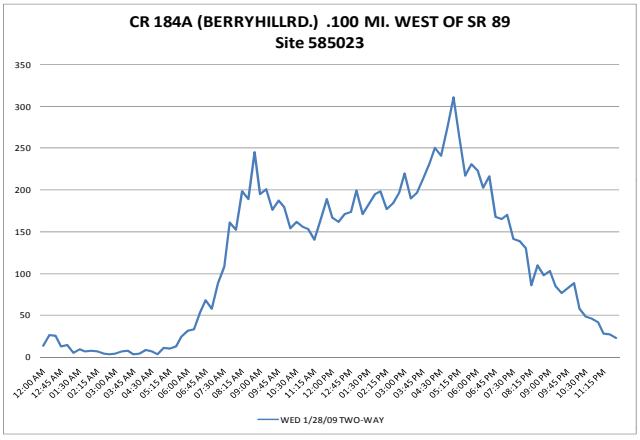

SR 10(US90) 300' EAST OF BLACKWATER RIVER
Site 581507
MON 3/30/09 EB
MON 3/30/09 WB

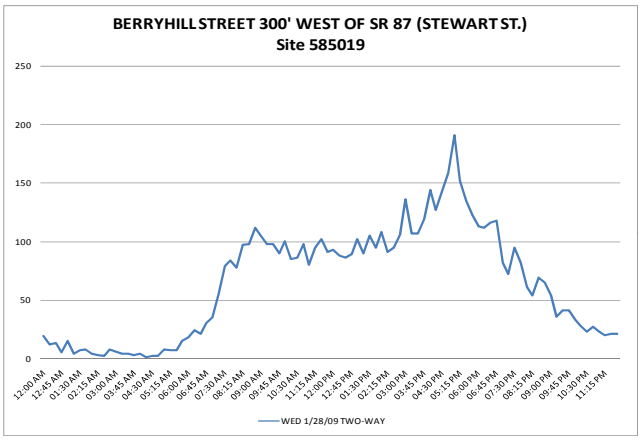

SR 10(US90)300' EAST OFCR89 (WARD BASIN ROAD)
Site 580062
MON 3/30/09 EB
TU 3/31/09 EB
MON 3/30/09 WB
TU 3/31/09 WB

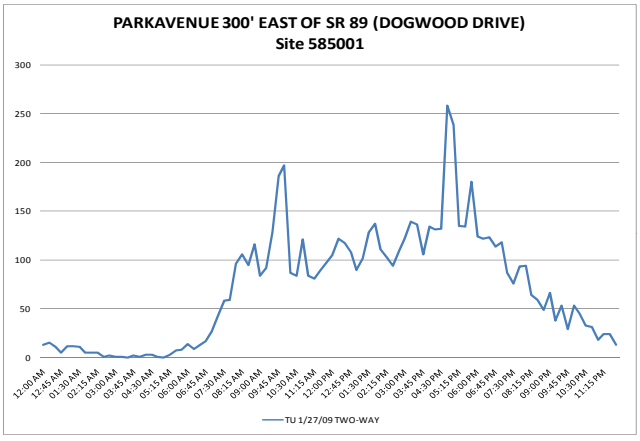

SR 10(US90) 300' WEST OF SR87 (SOUTH)
Site 580019
MON 1/26/09 EB
TU 1/27/09 EB
MON 1/26/09 WB
TU 1/27/09 WB

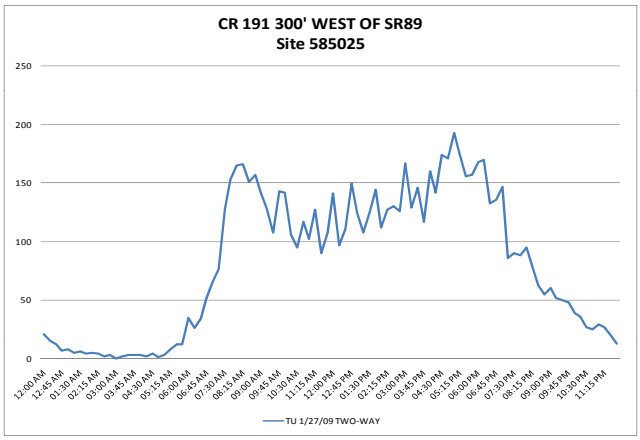

SR 10(US90) 300' EAST OF SR87 (SOUTH)
Site 580018
MON 3/9/09 EB
TU 3/10/09 EB
MON 3/9/09 WB
TU 3/9/09 WB

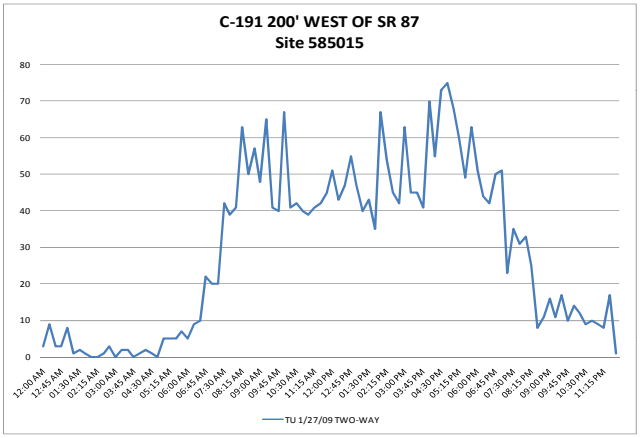

HAMILTON BRIDGE RD 250' WEST OF SR 89
Site 580253
WED 1/28/09 TWO-WAY

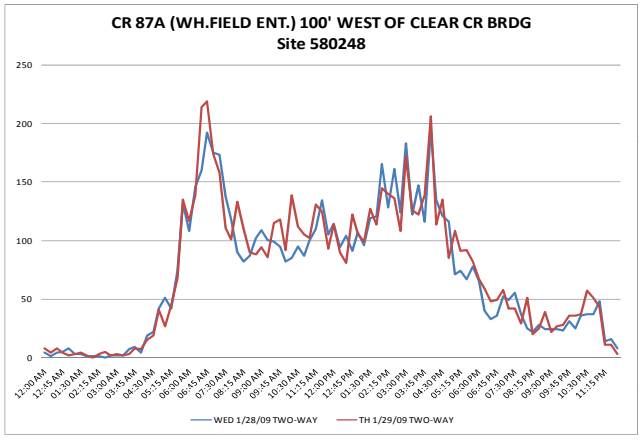

CR 184A (BERRYHILLRD.) .100 MI. WEST OF SR 89
Site 585023
WED 1/28/09 TWO-WAY

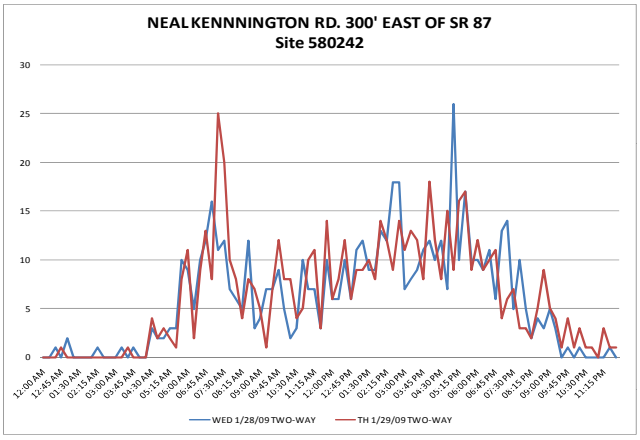

BERRYHILL STREET 300' WEST OF SR 87 (STEWART ST.)
Site 585019
WED 1/28/09 TWO-WAY

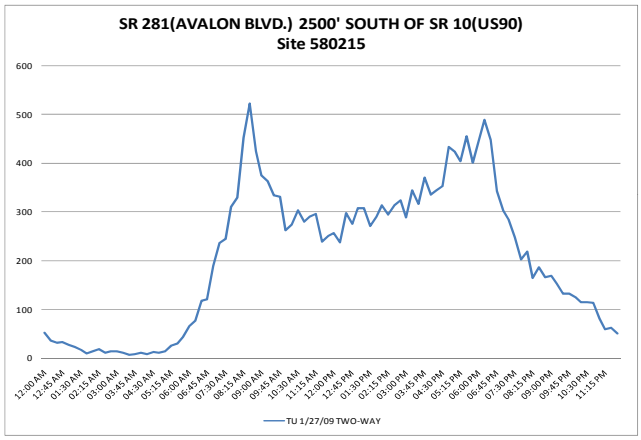

PARKAVENUE 300' EAST OF SR 89 (DOGWOOD DRIVE)
Site 585001
TU 1/27/09 TWO-WAY

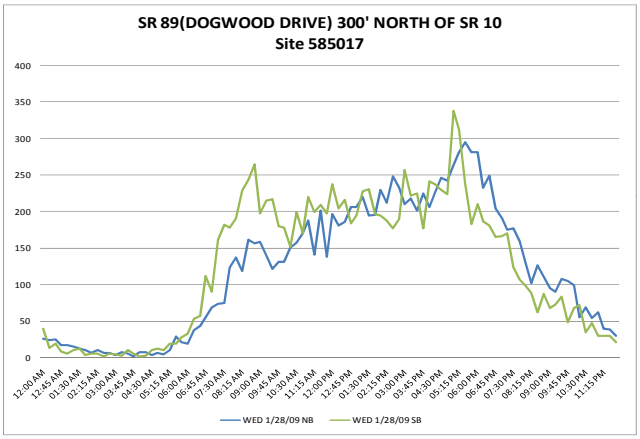

CR 191 300' WEST OF SR89
Site 585025
TU 1/27/09 TWO-WAY

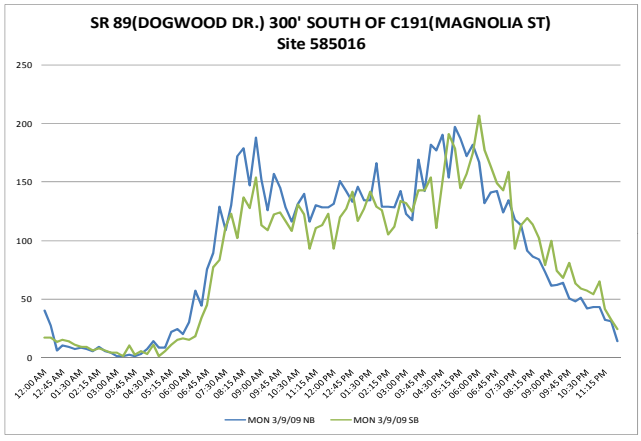

C-191 200' WEST OF SR 87
Site 585015
TU 1/27/09 TWO-WAY

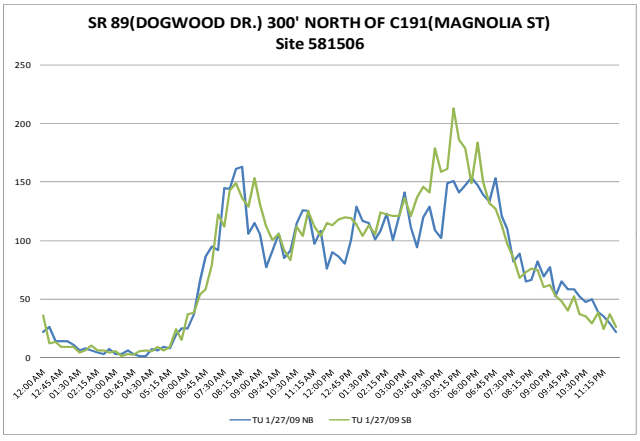

CR 87A (WH.FIELD ENT.) 100' WEST OF CLEAR CR BRDG
Site 580248
WED 1/28/09 TWO-WAY
TH 1/29/09 TWO-WAY

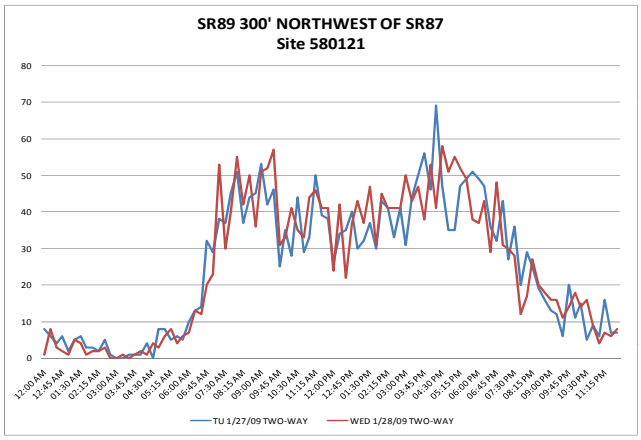

NEAL KENNNINGTON RD. 300' EAST OF SR 87
Site 580242
WED 1/28/09 TWO-WAY
TH 1/29/09 TWO-WAY

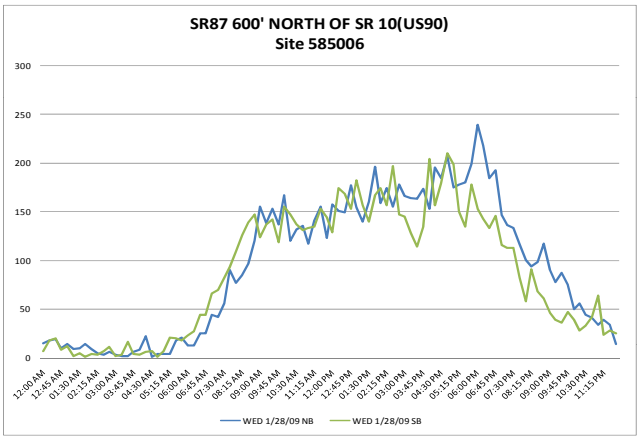

SR 281(AVALON BLVD.) 2500' SOUTH OF SR 10(US90)
Site 580215
TU 1/27/09 TWO-WAY

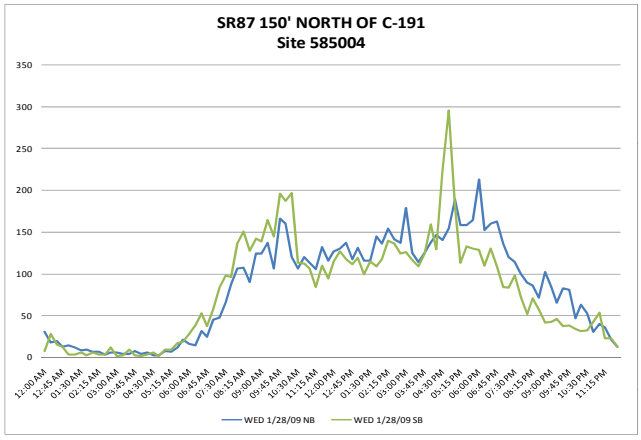

SR 89(DOGWOOD DRIVE) 300' NORTH OF SR 10
Site 585017
WED 1/28/09 NB
WED 1/28/09 SB

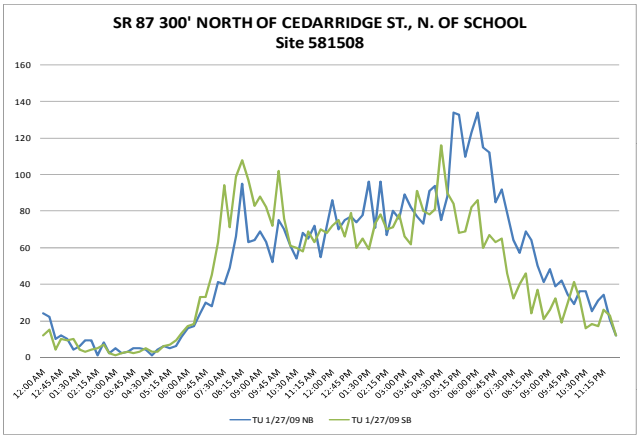

SR 89(DOGWOOD DR.) 300' SOUTH OF C191(MAGNOLIA ST)
Site 585016
MON 3/9/09 NB
MON 3/9/09 SB

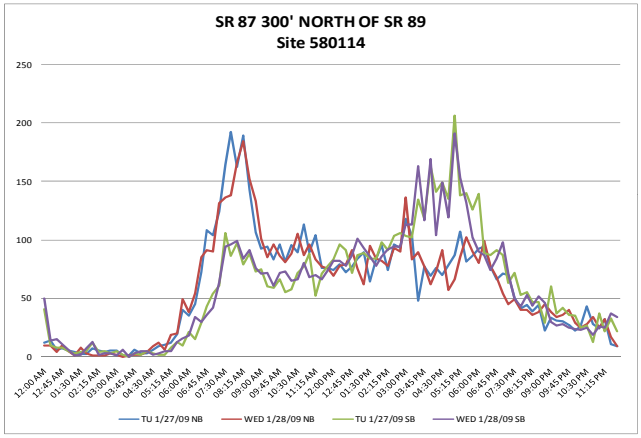

SR 89(DOGWOOD DR.) 300' NORTH OF C191(MAGNOLIA ST)
Site 581506
TU 1/27/09 NB
TU 1/27/09 SB

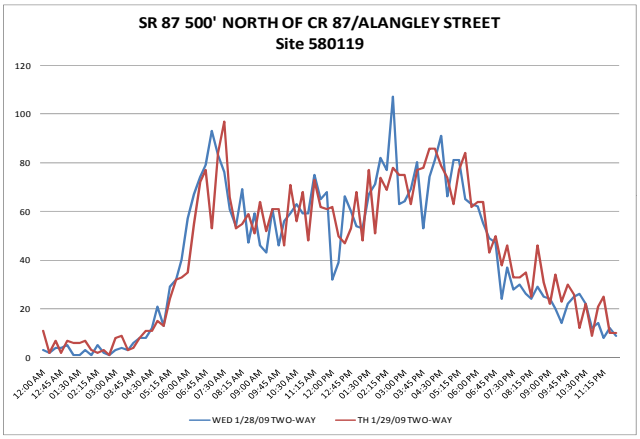

SR89 300' NORTHWEST OF SR87
Site 580121
TU 1/27/09 TWO-WAY
WED 1/28/09 TWO-WAY

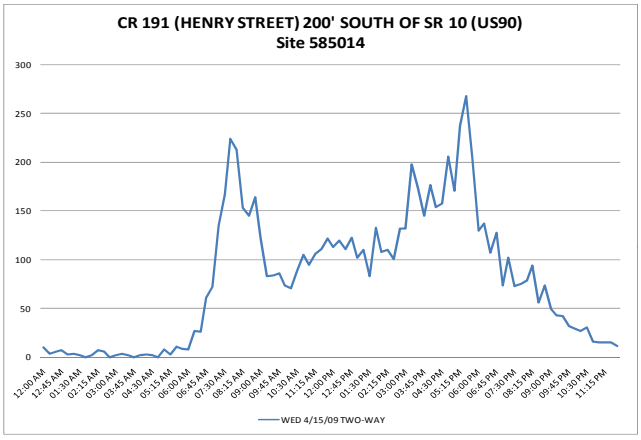

SR87 600' NORTH OF SR 10(US90)
Site 585006
WED 1/28/09 NB
WED 1/28/09 SB

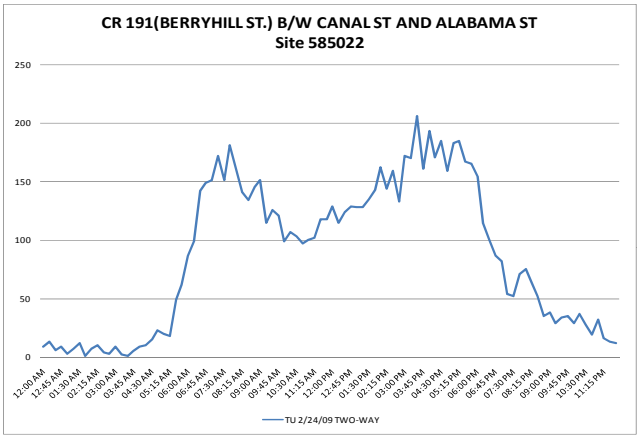

SR87 150' NORTH OF C-191
Site 585004
WED 1/28/09 NB
WED 1/28/09 SB

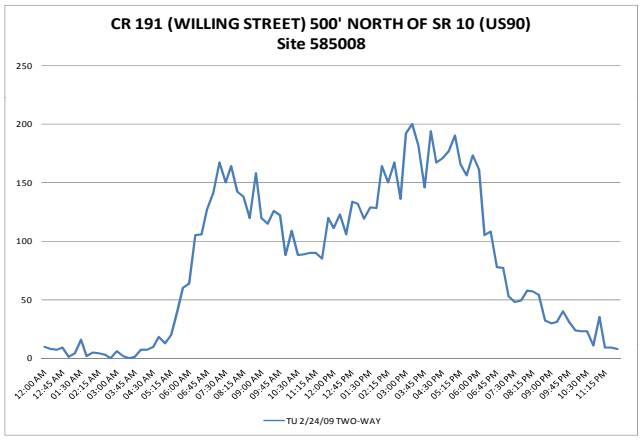

SR 87 300' NORTH OF CEDARRIDGE ST., N. OF SCHOOL
Site 581508
TU 1/27/09 NB
TU 1/27/09 SB

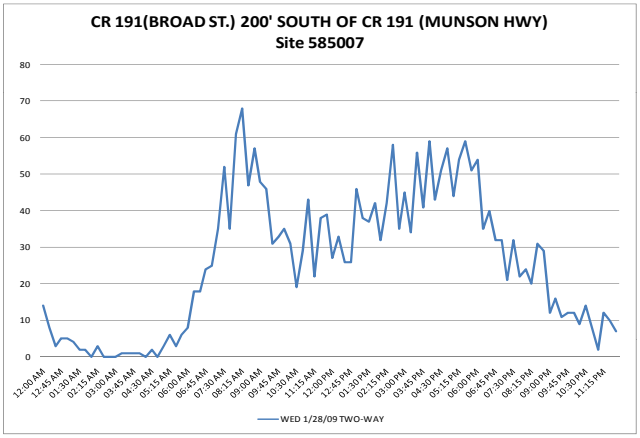

SR 87 300' NORTH OF SR 89
Site 580114
TU 1/27/09 NB
WED 1/28/09 NB
TU 1/27/09 SB
WED 1/28/09 SB

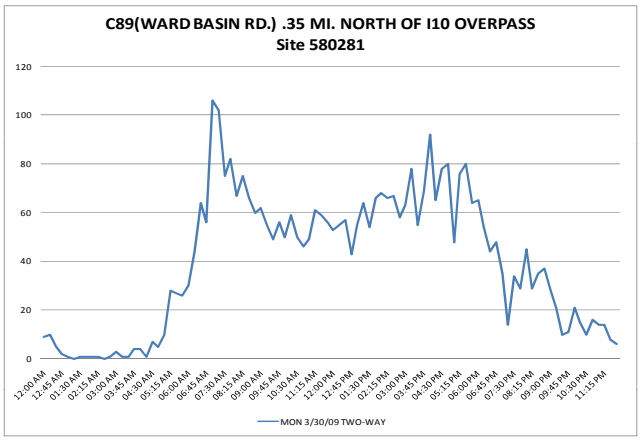

SR 87 500' NORTH OF CR 87/ALANGLEY STREET
Site 580119
WED 1/28/09 TWO-WAY
TH 1/29/09 TWO-WAY

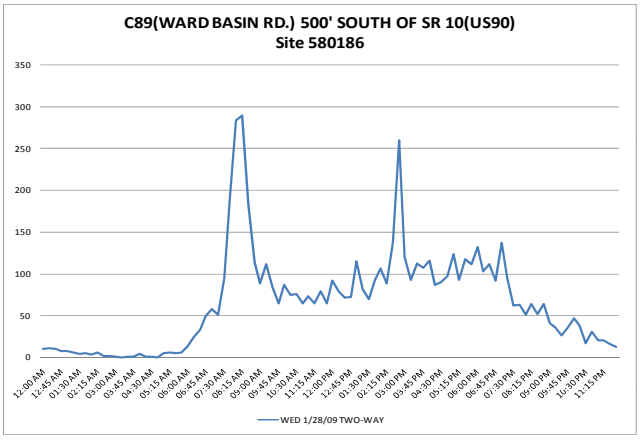

CR 191 (HENRY STREET) 200' SOUTH OF SR 10 (US90)
Site 585014
WED 4/15/09 TWO-WAY

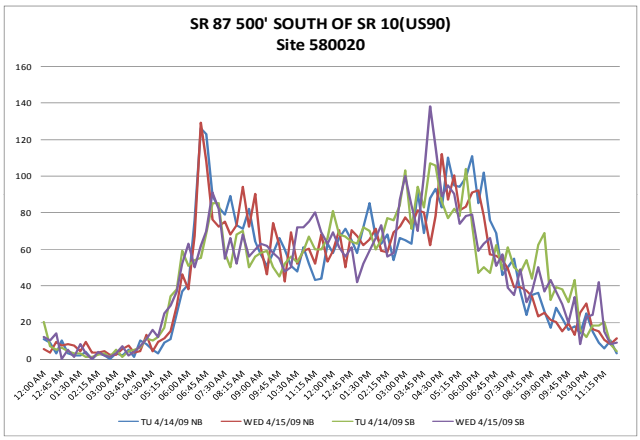

CR 191(BERRYHILL ST.) B/W CANAL ST AND ALABAMA ST
Site 585022
TU 2/24/09 TWO-WAY

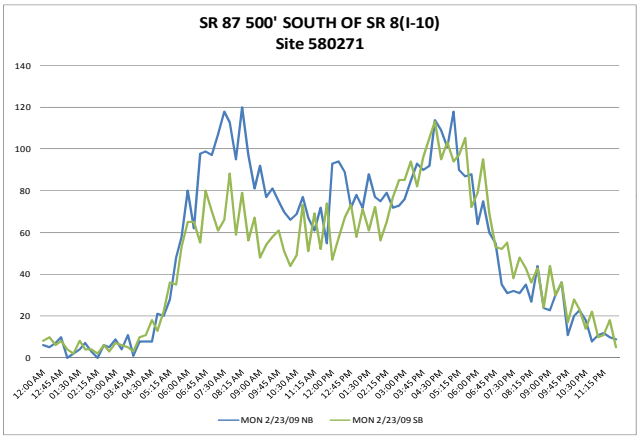

CR 191 (WILLING STREET) 500' NORTH OF SR 10 (US90)
Site 585008
TU 2/24/09 TWO-WAY

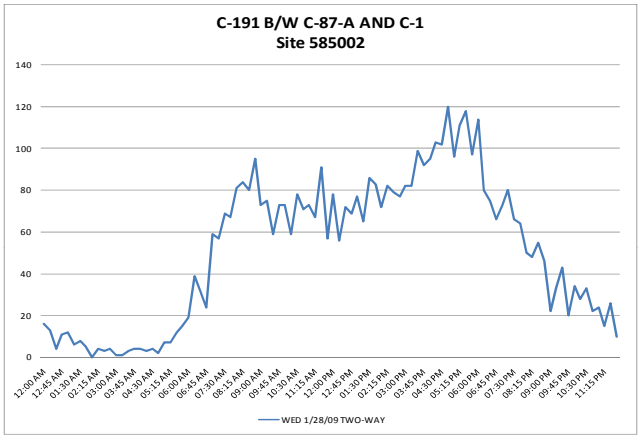

CR 191(BROAD ST.) 200' SOUTH OF CR 191 (MUNSON HWY)
Site 585007
WED 1/28/09 TWO-WAY

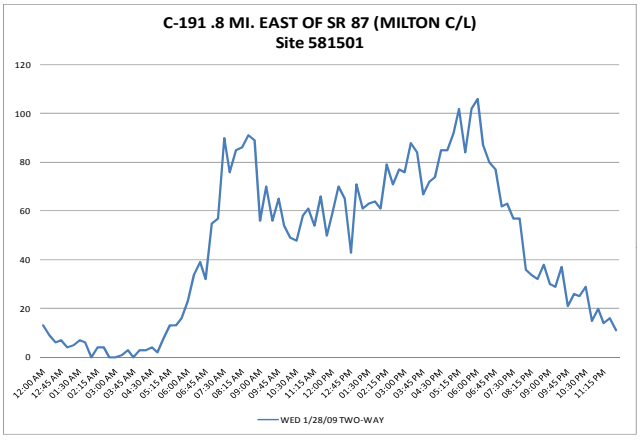

C89(WARD BASIN RD.) .35 MI. NORTH OF I10 OVERPASS
Site 580281
MON 3/30/09 TWO-WAY

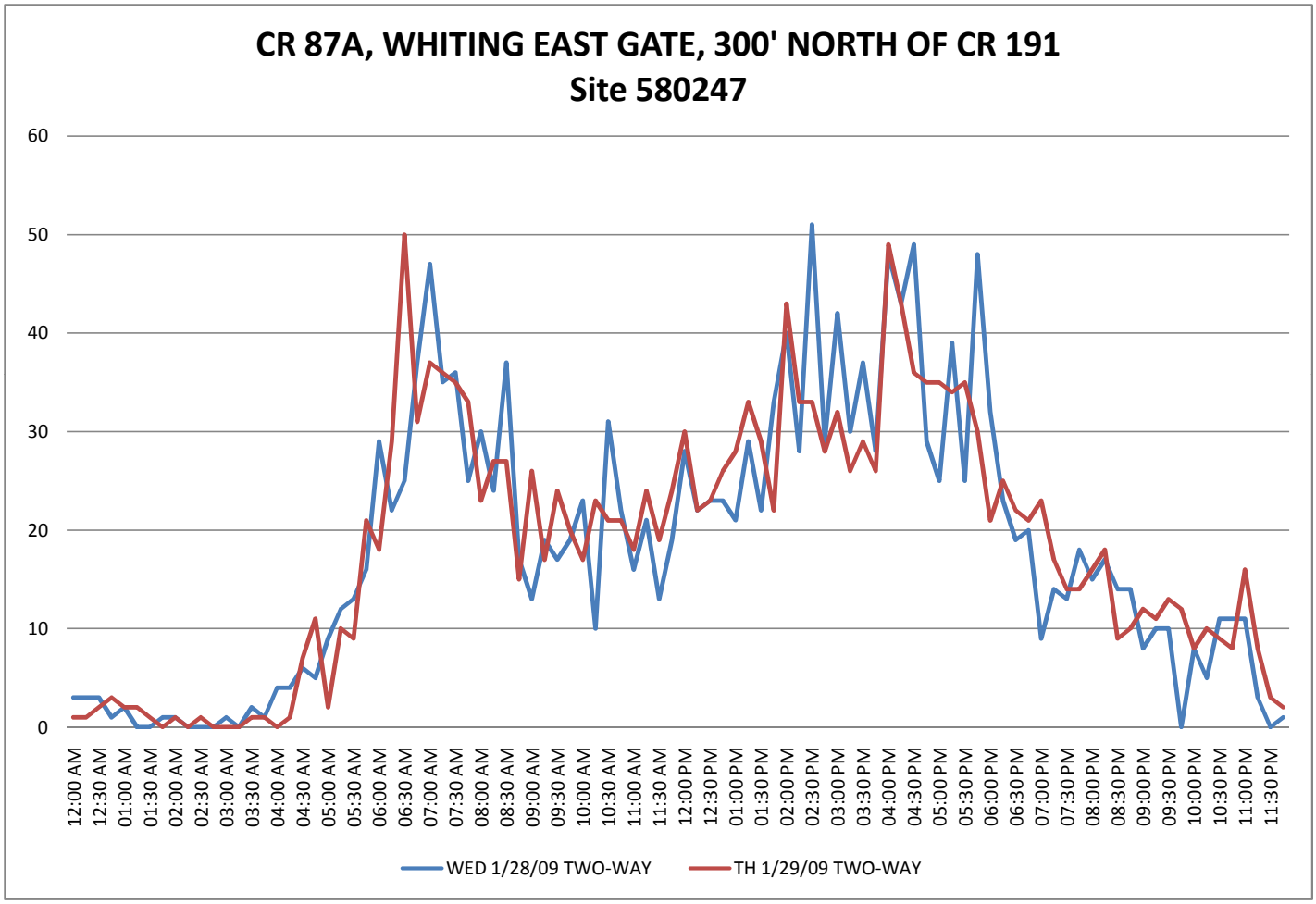

C89(WARD BASIN RD.) 500' SOUTH OF SR 10(US90)
Site 580186
WED 1/28/09 TWO-WAY


SR 87 500' SOUTH OF SR 10(US90)
Site 580020
TU 4/14/09 NB
WED 4/15/09 NB
TU 4/14/09 SB
WED 4/15/09 SB


SR 87 500' SOUTH OF SR 8(I-10)
Site 580271
MON 2/23/09 NB
MON 2/23/09 SB


C-191 B/W C-87-A AND C-1
Site 585002
WED 1/28/09 TWO-WAY


C-191 .8 MI. EAST OF SR 87 (MILTON C/L)
Site 581501
WED 1/28/09 TWO-WAY


CR 87A, WHITING EAST GATE, 300' NORTH OF CR 191
Site 580247
60
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30
20
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12:00 AM
12:30 AM
01:00 AM
01:30 AM
02:00 AM
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WED 1/28/09 TWO-WAY
TH 1/29/09 TWO-WAY

Appendix II:
2007 FDOT Level of Service Standards

TABLE 4 – 1

GENERALIZED ANNUAL AVERAGE DAILY VOLUMES FOR FLORIDA'S URBANIZED AREAS*

UNINTERRUPTED FLOW HIGHWAYS

Lanes	Divided	Level of Service A	B	C	D	E
2	Undivided	2,200	7,600	15,000	21,300	27,100
4	Divided	20,400	33,000	47,800	61,800	70,200
6	Divided	30,500	49,500	71,600	92,700	105,400

STATE TWO-WAY ARTERIALS

Class I (>0.00 to 1.99 signalized intersections per mile)

Lanes	Divided	Level of Service A	B	C	D	E
2	Undivided	**	4,200	13,800	16,400	16,900
4	Divided	4,800	29,300	34,700	35,700	***
6	Divided	7,300	44,700	52,100	53,500	***
8	Divided	9,400	58,000	66,100	67,800	***

Class II (2.00 to 4.50 signalized intersections per mile)

Lanes	Divided	Level of Service A	B	C	D	E
2	Undivided	**	1,900	11,200	15,400	16,300
4	Divided	**	4,100	26,000	32,700	34,500
6	Divided	**	6,500	40,300	49,200	51,800
8	Divided	**	8,500	53,300	63,800	67,000

Class III (more than 4.5 signalized intersections per mile and not within primary city central business district of an urbanized area over 750,000)

Lanes	Divided	Level of Service A	B	C	D	E
2	Undivided	**	**	5,300	12,600	15,500
4	Divided	**	**	12,400	28,900	32,800
6	Divided	**	**	19,500	44,700	49,300
8	Divided	**	**	25,800	58,700	63,800

Class IV (more than 4.5 signalized intersections per mile and within primary city central business district of an urbanized area over 750,000)

Lanes	Divided	Level of Service A	B	C	D	E
2	Undivided	**	**	5,200	13,700	15,000
4	Divided	**	**	12,300	30,300	31,700
6	Divided	**	**	19,100	45,800	47,600
8	Divided	**	**	25,900	59,900	62,200

NON-STATE ROADWAYS

Major City/County Roadways

Lanes	Divided	Level of Service A	B	C	D	E
2	Undivided	**	**	9,100	14,600	15,600
4	Divided	**	**	21,400	31,100	32,900
6	Divided	**	**	33,400	46,800	49,300

Other Signalized Roadways
(signalized intersection analysis)

Lanes	Divided	Level of Service A	B	C	D	E
2	Undivided	**	**	4,800	10,000	12,600
4	Divided	**	**	11,100	21,700	25,200

Source: Florida Department of Transportation 05/17/07
Systems Planning Office
605 Suwannee Street, MS 19
Tallahassee, FL 32399-0450
http://www.dot.state.fl.us/planning/systems/sm/los/default.htm

FREEWAYS

Interchange spacing ≥ 2 mi. apart

Lanes	Level of Service A	B	C	D	E
4	23,800	39,600	55,200	67,100	74,600
6	36,900	61,100	85,300	103,600	115,300
8	49,900	82,700	115,300	140,200	156,000
10	63,000	104,200	145,500	176,900	196,400
12	75,900	125,800	175,500	213,500	237,100

Interchange spacing < 2 mi. apart

Lanes	Level of Service A	B	C	D	E
4	22,000	36,000	52,000	67,200	76,500
6	34,800	56,500	81,700	105,800	120,200
8	47,500	77,000	111,400	144,300	163,900
10	60,200	97,500	141,200	182,600	207,600
12	72,900	118,100	170,900	221,100	251,200

BICYCLE MODE

(Note: Level of service for the bicycle mode in this table is based on roadway geometrics at 40 mph posted speed and traffic conditions, not number of bicyclists using the facility.) (Multiply motorized vehicle volumes shown below by number of directional roadway lanes to determine two-way maximum service volumes.)

Paved Shoulder/ Bicycle Lane Coverage	Level of Service A	B	C	D	E
0-49%	**	**	3,200	13,800	>13,800
50-84%	**	2,500	4,100	>4,100	***
85-100%	3,100	7,200	>7,200	***	***

PEDESTRIAN MODE

(Note: Level of service for the pedestrian mode in this table is based on roadway geometrics at 40 mph posted speed and traffic conditions, not number of pedestrians using the facility.) (Multiply motorized vehicle volumes shown below by number of directional roadway lanes to determine two-way maximum service volumes.)

Sidewalk Coverage	Level of Service A	B	C	D	E
0-49%	**	**	**	6,400	15,500
50-84%	**	**	**	9,900	19,000
85-100%	**	2,200	11,300	>11,300	***

BUS MODE (Scheduled Fixed Route)

Level of Service (Buses per hour)

(Note: Buses per hour shown are only for the peak hour in the single direction of the higher traffic flow.)

Sidewalk Coverage	Level of Service A	B	C	D	E
0-84%	**	>5	≥4	≥3	≥2
85-100%	>6	>4	≥3	≥2	≥1

ARTERIAL/NON-STATE ROADWAY ADJUSTMENTS

(alter corresponding volume by the indicated percent)

Lanes	Median	Left Turn Lanes	Adjustment Factors
2	Divided	Yes	+5%
2	Undivided	No	-20%
Multi	Undivided	Yes	-5%
Multi	Undivided	No	-25%

ONE-WAY FACILITIES

Multiply the corresponding two-directional volumes in this table by 0.6.

* Values shown are presented as two-way annual average daily volumes for levels of service and are for the automobile/truck modes unless specifically stated. Although presented as daily volumes, they actually represent peak hour direction conditions with applicable K and D factors applied. This table does not constitute a standard and should be used only for general planning applications. The computer models from which this table is derived should be used for more specific planning applications. The table and deriving computer models should not be used for corridor or intersection design, where more refined techniques exist. Level of service letter grade thresholds are probably not comparable across modes and, therefore, cross modal comparisons should be made with caution. Furthermore, combining levels of service of different modes into one overall roadway level of service is not recommended. Calculations are based on planning applications of the Highway Capacity Manual, Bicycle LOS Model, Pedestrian LOS Model and Transit Capacity and Quality of Service Manual, respectively for the automobile/truck, bicycle, pedestrian and bus modes.

**Cannot be achieved using table input value defaults.

***Not applicable for that level of service letter grade. For automobile/truck modes, volumes greater than level of service D become F because intersection capacities have been reached. For bicycle and pedestrian modes, the level of service letter grade (including F) is not achievable, because there is no maximum vehicle volume threshold using table input value defaults.

TABLE 4 - 2

GENERALIZED ANNUAL AVERAGE DAILY VOLUMES FOR FLORIDA'S AREAS TRANSITIONING INTO URBANIZED AREAS OR AREAS OVER 5,000 NOT IN URBANIZED AREAS*

UNINTERRUPTED FLOW HIGHWAYS

Lanes	Divided	Level of Service A	B	C	D	E
2	Undivided	2,400	8,000	14,900	21,100	26,700
4	Divided	18,600	30,200	43,600	56,500	64,200
6	Divided	27,900	45,200	65,500	84,700	96,200

STATE TWO-WAY ARTERIALS

Class I (>0.00 to 1.99 signalized intersections per mile)

Lanes	Divided	Level of Service A	B	C	D	E
2	Undivided	**	4,000	13,100	15,500	16,300
4	Divided	4,600	27,900	32,800	34,200	***
6	Divided	6,900	42,800	49,300	51,400	***

Class II (2.00 to 4.50 signalized intersections per mile)

Lanes	Divided	Level of Service A	B	C	D	E
2	Undivided	**	**	10,500	14,500	15,300
4	Divided	**	3,700	24,400	30,600	32,200
6	Divided	**	6,000	38,000	46,100	48,400

Class III (more than 4.5 signalized intersections per mile)

Lanes	Divided	Level of Service A	B	C	D	E
2	Undivided	**	**	5,000	11,800	14,600
4	Divided	**	**	11,700	27,200	30,800
6	Divided	**	**	18,400	42,100	46,300

NON-STATE ROADWAYS

Major City/County Roadways

Lanes	Divided	Level of Service A	B	C	D	E
2	Undivided	**	**	7,000	13,600	14,600
4	Divided	**	**	16,400	29,300	30,900
6	Divided	**	**	25,700	44,100	46,400

Other Signalized Roadways
(signalized intersection analysis)

Lanes	Divided	Level of Service A	B	C	D	E
2	Undivided	**	**	4,400	9,400	12,000
4	Divided	**	**	10,300	20,200	24,000

Source: Florida Department of Transportation
Systems Planning Office
605 Suwannee Street, MS 19
Tallahassee, FL 32399-0450
http://www.dot.state.fl.us/planning/systems/sm/los/default.htm

05/17/07

FREEWAYS

Lanes	Level of Service A	B	C	D	E
4	23,500	38,700	52,500	62,200	69,100
6	36,400	59,800	81,100	96,000	106,700
8	49,100	80,900	109,600	129,800	144,400
10	61,800	101,800	138,400	163,800	182,000

BICYCLE MODE

(**Note:** Level of service for the bicycle mode in this table is based on roadway geometrics at 40 mph posted speed and traffic conditions, not number of bicyclists using the facility.) (Multiply motorized vehicle volumes shown below by number of directional roadway lanes to determine two-way maximum service volumes.)

Paved Shoulder/ Bicycle Lane Coverage	Level of Service A	B	C	D	E
0-49%	**	1,900	3,300	13,600	>13,600
50-84%	**	2,500	4,000	>4,000	***
85-100%	3,200	7,100	>7,100	***	***

PEDESTRIAN MODE

(**Note:** Level of service for the pedestrian mode in this table is based on roadway geometric at 40 mpb posted speed and traffic conditions, not number of pedestrians using the facility.) (Multiply motorized vehicle volumes shown by number of directional roadway lanes to determine two-way maximum service volumes.)

% Sidewalk Coverage	Level of Service A	B	C	D	E
0-49%	**	**	**	6,300	15,400
50-84%	**	**	**	9,800	18,800
85-100%	**	2,200	11,200	>11,200	***

ARTERIAL/NON-STATE ROADWAY ADJUSTMENTS

(alter corresponding volume by the indicated percent)

Lanes	Median	Left Turn Lanes	Adjustment Factors
2	Divided	Yes	+5%
2	Undivided	No	-20%
Multi	Undivided	Yes	-5%
Multi	Undivided	No	-25%

ONE-WAY FACILITIES

Multiply the corresponding two-directional volumes in this table by 0.6.

*Values shown are presented as two-way annual average daily volumes for levels of service and are for the automobile/truck modes unless specifically stated. Although presented as daily volumes, they actually represent peak hour direction conditions with applicable K and D factors applied. This table does not constitute a standard and should be used only for general planning applications. The computer models from which this table is derived should be used for more specific planning applications. The table and deriving compuner models should not be used for corridor or intersection design, where more refined techniques exist. Level of service letter grade thresholds are probably not comparable across modes and, therefore, cross modal comparisons should be made with caution. Furthermore, combining levels of service of different modes into one overall roadway level of service is not recommended. Calculations are based on planning applications of the Highway Capacity Manual, Bicycle LOS Model, Pedestrian LOS Model and Transit Capacity and Quality of Service Manual, respectively for the automobile/truck, bicycle, pedestrian and bus modes.

**Cannot be achieved using table input value defaults.

***Not applicable for that level of service letter grade. For automobile/truck modes, volumes greater than level of service D become F because intersection capacities have been reached. For bicycle and pedestrian modes, the level of service letter grade (including F) is not achievable, because there is no maximum vehicle volume threshold using table input value defaults.

TABLE 4 - 3

GENERALIZED ANNUAL AVERAGE DAILY VOLUMES FOR FLORIDA'S RURAL UNDEVELOPED AREAS AND CITIES OR DEVELOPED AREAS LESS THAN 5,000 POPULATION*

RURAL UNDEVELOPED AREAS

FREEWAYS

Lanes	Level of Service A	B	C	D	E
4	21,300	35,300	47,900	56,600	63,000
6	33,100	54,300	73,900	87,400	97,200
8	44,700	73,600	100,000	118,400	131,400

UNINTERRUPTED FLOW HIGHWAYS

Lanes	Divided	Level of Service A	B	C	D	E
2	Undivided	2,400	4,400	7,900	13,700	27,500
4	Divided	17,500	28,600	40,800	52,400	58,300
6	Divided	26,200	42,800	61,200	78,600	87,400

PASSING LANE ADJUSTMENTS
(alter corresponding two-lane LOS A-D volumes indicated percent)

Passing Lane Spacing	Adjustment Factors
5 mi.	+25%
10 mi.	+10%

ISOLATED SIGNALIZED INTERSECTIONS

Lanes	Level of Service A	B	C	D	E
2	**	1,900	8,000	10,700	12,100
4	**	2,900	17,400	23,000	25,200
6	**	4,500	27,100	35,500	43,100

BICYCLE MODE

(Note: Level of service for the bicycle mode in this table is based on roadway geometrics at 55 mph posted speed and traffic conditions, not number of bicyclists using the facility.) (Multiply motorized vehicle volumes shown below by directional roadway lanes to determine maximum service volume.)

Paved Shoulder/ Bicycle Lane Coverage	A	B	C	D	E
0-49%	**	**	**	**	6,200
50-84%	**	**	**	**	17,600
85-100%	**	**	3,900	>3,900	***

CITIES OR RURAL DEVELOPED AREAS LESS THAN 5000

FREEWAYS

Lanes	Level of Service A	B	C	D	E
4	21,300	35,300	47,900	56,600	63,000
6	33,100	54,300	73,900	87,400	97,200
8	44,700	73,600	100,000	118,400	131,400

UNINTERRUPTED FLOW HIGHWAYS

Lanes	Divided	Level of Service A	B	C	D	E
2	Undivided	3,100	8,700	15,300	21,000	26,400
4	Divided	17,800	28,900	41,800	54,100	61,500
6	Divided	26,800	43,300	62,700	81,200	92,200

INTERRUPTED FLOW ARTERIALS

Lanes	Divided	Level of Service A	B	C	D	E
2	Undivided	**	2,200	11,000	13,900	14,900
4	Divided	**	5,300	25,500	29,400	31,200
6	Divided	**	8,400	39,400	44,200	46,800

NON-STATE SIGNALIZED ROADWAYS

(signalized intersection analysis)

Lanes	Level of Service A	B	C	D	E
2	**	**	1,900	7,600	10,100

BICYCLE MODE

(Note: Level of service for the bicycle mode in this table is based on roadway geometrics at 45 mph posted speed and traffic conditions, not number of bicyclists using the facility.) (Multiply motorized vehicle volumes shown below by number of directional roadway lanes to determine maximum service volumes.)

Paved Sboulder/ Bicycle Lane Coverage	Level of Service A	B	C	D	E
0-49%	**	**	2,800	6,900	>6,900
50-84%	**	2,100	3,500	>3,500	***
85-100%	2,800	4,000	>4,000	***	***

PEDESTRIAN MODE

(Note: Level of service for the pedestrian mode in this table is based on roadway geometric at 45 mph posted speed and traffic conditions, not number of pedestrian using the facility.) (Multiply motorized vehicle volumes shown by number of directional roadway lanes to determine maximum service volumes.)

Sidewalk Coverage	Level of Service A	B	C	D	E
0-49%	**	**	**	4,400	14,200
50-84%	**	**	**	8,000	18,000
85-100%	**	**	9,400	>9,400	***

05/17/07

Source: Florida Department of Transportation
Systems Planning Office
605 Suwannee Street, MS 19
Tallahassee, FL 32399-0450

http://www.dot.state.fl.us/planning/systems/sm/los/default.htm

ARTERIAL/NON-STATE ROADWAY ADJUSTMENTS

(alter corresponding volume by the indicated percent)

Lanes	Median	Left Turn Lanes	Adjustment Factors
2	Divided	Yes	+5%
2	Undivided	No	-20%
Multi	Undivided	Yes	-5%
Multi	Undivided	No	-25%

* Values shown are presented as two-way annual average daily volumes for levels of service and are for the automobile/truck modes unless specifically stated. Although presented as daily volumes, they actually represent peak hour direction conditions with applicable K and D factors applied. This table does not constitute a standard and should be used only for general planning applications. The computer models from which this table is derived should be used for more specific planning applications. The table and deriving computer models should not be used for corridor or intersection design, where more refined techniques exist. Level of service letter grade thresholds are probably not comparable across modes and, therefore, cross modal comparisons should be made with caution. Furthermore, combining levels of service of different modes into one overall roadway level of service is not recommended. Calculations are based on planning applications of the Highway Capacity Manual, Bicycle LOS Model, Pedestrian LOS Model and Transit Capacity and Quality of Service Manual, respectively for the automobile/truck, bicycle, pedestrian and bus modes.

**Cannot be achieved using table input value defaults.

***Not applicable for that level of service letter grade. For automobile/truck modes, volumes greater than level of service D become F because intersection capacities have been reached. For bicycle and pedestrian modes, the level of service letter grade (including F) is not achievable, because there is no maximum vehicle volume threshold using table input value defaults.

TABLE 4 – 4

GENERALIZED PEAK HOUR TWO-WAY VOLUMES FOR FLORIDA'S URBANIZED AREAS*

UNINTERRUPTED FLOW HIGHWAYS

Lanes	Divided	Level of Service A	B	C	D	E
2	Undivided	210	730	1,450	2,060	2,620
4	Divided	1,940	3,140	4,540	5,870	6,670
6	Divided	2,900	4,700	6,800	8,810	10,010

STATE TWO-WAY ARTERIALS

Class I (>0.00 to 1.99 signalized intersections per mile)

Lanes	Divided	Level of Service A	B	C	D	E
2	Undivided	**	400	1,310	1,560	1,610
4	Divided	460	2,780	3,300	3,390	***
6	Divided	700	4,240	4,950	5,080	***
8	Divided	890	5,510	6,280	6,440	***

Class II (2.00 to 4.50 signalized intersections per mile)

Lanes	Divided	Level of Service A	B	C	D	E
2	Undivided	**	180	1,070	1,460	1,550
4	Divided	**	390	2,470	3,110	3,270
6	Divided	**	620	3,830	4,680	4,920
8	Divided	**	800	5,060	6,060	6,360

Class III (more than 4.5 signalized intersections per mile and not within primary city central business district of an urbanized area over 750,000)

Lanes	Divided	Level of Service A	B	C	D	E
2	Undivided	**	**	500	1,200	1,470
4	Divided	**	**	1,180	2,750	3,120
6	Divided	**	**	1,850	4,240	4,690
8	Divided	**	**	2,450	5,580	6,060

Class IV (more than 4.5 signalized intersections per mile and within primary city central business district of an urbanized area over 750,000)

Lanes	Divided	Level of Service A	B	C	D	E
2	Undivided	**	**	490	1,310	1,420
4	Divided	**	**	1,170	2,880	3,010
6	Divided	**	**	1,810	4,350	4,520
8	Divided	**	**	2,460	5,690	5,910

NON-STATE ROADWAYS

Major City/County Roadways

Lanes	Divided	Level of Service A	B	C	D	E
2	Undivided	**	**	870	1,390	1,480
4	Divided	**	**	2,030	2,950	3,120
6	Divided	**	**	3,170	4,450	4,690

Other Signalized Roadways
(signalized intersection analysis)

Lanes	Divided	Level of Service A	B	C	D	E
2	Undivided	**	**	450	950	1,200
4	Divided	**	**	1,050	2,070	2,400

Source: Florida Department of Transportation 05/17/07
Systems Planning Office
605 Suwannee Street, MS 19
Tallahassee, FL 32399-0450
http://www.dot.state.fl.us/planning/systems/sm/los/default.htm

FREEWAYS

Interchange spacing ≥ 2 mi. apart

Lanes	Level of Service A	B	C	D	E
4	2,310	3,840	5,350	6,510	7,240
6	3,580	5,930	8,270	10,050	11,180
8	4,840	8,020	11,180	13,600	15,130
10	6,110	10,110	14,110	17,160	19,050
12	7,360	12,200	17,020	20,710	23,000

Interchange spacing < 2 mi. apart

Lanes	Level of Service A	B	C	D	E
4	2,050	3,350	4,840	6,250	7,110
6	3,240	5,250	7,600	9,840	11,180
8	4,420	7,160	10,360	13,420	15,240
10	5,600	9,070	13,130	16,980	19,310
12	6,780	10,980	15,890	20,560	23,360

BICYCLE MODE

(**Note**: Level of service for the bicycle mode in this table is based on roadway geometrics at 40 mph posted speed and traffic conditions, not number of bicyclists using the facility.) (Multiply motorized vehicle volumes shown below by number of directional roadway lanes to determine two-way maximum service volumes.)

Paved Shoulder Bicycle Lane Coverage	Level of Service A	B	C	D	E
0-49%	**	**	310	1,310	>1,310
50-84%	**	240	390	>390	***
85-100%	300	680	>680	***	***

PEDESTRIAN MODE

(**Note:** Level of service for the pedestrian mode in this table is based on roadway geometrics at 40 mph posted speed and traffic conditions, not number of pedestrians using the facility.) (Multiply motorized vehicle volumes shown below by number of directional roadway lanes to determine two-way maximum service volumes.)

Sidewalk Coverage	Level of Service A	B	C	D	E
0-49%	**	**	**	600	1,480
50-84%	**	**	**	940	1,800
85-100%	**	210	1,080	>1,080	***

BUS MODE (Scheduled Fixed Route)

(Buses per hour)

(Note: Buses per hour shown are only for the peak hour in the single direction of higher traffic flow.)

Sidewalk Coverage	Level of Service A	B	C	D	E
0-84%	**	>5	≥4	≥3	≥2
85-100%	>6	>4	≥3	≥2	≥1

ARTERIAL/NON-STATE ROADWAY ADJUSTMENTS

(alter corresponding volume by the indicated percent)

Lanes	Median	Left Turns Lanes	Adjustment Factors
2	Divided	Yes	+5%
2	Undivided	No	-20%
Multi	Undivided	Yes	-5%
Multi	Undivided	No	-25%

ONE-WAY FACILITIES

Multiply the corresponding two-directional volumes in this table by 0.6.

*Values shown are presented as hourly two-way volumes for levels of service and are for the automobile/truck modes unless specifically stated. Although presented as peak hour two-way volumes, they actually represent peak hour peak direction conditions with an applicable D factor applied. This table does not constitute a standard and should be used only for general planning applications. The computer models from which this table is derived should be used for more specific planning applications. The table and deriving computer models should not be used for corridor or intersection design, where more refined techniques exist. Level of service letter grade thresholds are probably not comparable across modes and, therefore, cross modal comparisons should be made with caution. Furthermore, combining levels of service of different modes into one overall roadway level of service is not recommended. Calculations are based on planning applications of the Highway Capacity Manual, Bicycle LOS Model, Pedestrian LOS Model and Transit Capacity and Quality of Service Manual, respectively for the automobile/truck, bicycle, pedestrian and bus modes.

**Cannot be achieved using table input value defaults.

***Not applicable for that level of service letter grade. For automobile/truck modes, volumes greater than level of service D become F because intersection capacities have been reached. For bicycle and pedestrian modes, the level of service letter grade (including F) is not achievable, because there is no maximum vehicle volume threshold using table input value defaults.

TABLE 4 - 5

GENERALIZED PEAK HOUR TWO-WAY VOLUMES FOR FLORIDA'S AREAS TRANSITIONING INTO URBANIZED AREAS OR AREAS OVER 5,000 NOT IN URBANIZED AREAS*

UNINTERRUPTED FLOW HIGHWAYS

Lanes	Divided	Level of Service A	B	C	D	E
2	Undivided	230	770	1,440	2,040	2,580
4	Divided	1,790	2,900	4,190	5,420	6,160
6	Divided	2,680	4,340	6,280	8,130	9,240

STATE TWO-WAY ARTERIALS

Class I (>0.00 to 1.99 signalized intersections per mile)

Lanes	Divided	Level of Service A	B	C	D	E
2	Undivided	**	390	1,260	1,490	1,560
4	Divided	440	2,680	3,150	3,290	***
6	Divided	670	4,110	4,730	4,930	***

Class II (2.00 to 4.50 signalized intersections per mile)

Lanes	Divided	Level of Service A	B	C	D	E
2	Undivided	**	**	1,010	1,390	1,470
4	Divided	**	360	2,340	2,940	3,090
6	Divided	**	580	3,640	4,420	4,650

Class III (more than 4.5 signalized intersections per mile)

Lanes	Divided	Level of Service A	B	C	D	E
2	Undivided	**	**	480	1,130	1,400
4	Divided	**	**	1,130	2,610	2,960
6	Divided	**	**	1,770	4,040	4,450

NON-STATE ROADWAYS

Major City/County Roadways

Lanes	Divided	Level of Service A	B	C	D	E
2	Undivided	**	**	670	1,300	1,400
4	Divided	**	**	1,570	2,810	2,970
6	Divided	**	**	2,470	4,230	4,460

Other Signalized Roadways
(signalized intersection analysis)

Lanes	Divided	Level of Service A	B	C	D	E
2	Undivided	**	**	430	900	1,150
4	Divided	**	**	990	1,940	2,300

Source: Florida Department of Transportation 05/17/07
Systems Planning Office
605 Suwannee Street, MS 19
Tallahassee, FL 32399-0450
http://www.dot.state.fl.us/planning/systems/sm/los/default.htm

FREEWAYS

Lanes	Level of Service A	B	C	D	E
4	2,350	3,870	5,250	6,220	6,910
6	3,640	5,980	8,110	9,600	10,670
8	4,910	8,090	10,960	12,980	14,440
10	6,180	10,180	13,840	16,380	18,200

BICYCLE MODE

(**Note:** Level of service for the bicycle mode in this table is based on roadway geometrics at 40 mph posted speed and traffic conditions, not number of bicyclists using the facility.) (Multiply motorized vehicle volumes shown below by number of directional roadway lanes to determine two-way maximum service volumes.)

Paved Shoulder Bicycle Lane Coverage	Level of Service A	B	C	D	E
0-49%	**	180	310	1,310	>1,310
50-84%	**	240	390	>390	***
85-100%	310	680	>680	***	***

PEDESTRIAN MODE

(**Note:** Level of service for the pedestrian mode in this table is based on roadway geometric at 40 mph posted speed and traffic conditions, not number of pedestrians using the facility.) (Multiply motorized vehicle volumes shown by number of directional roadway lanes to determine two-way maximum service volumes.)

Sidewalk Coverage	Level of Service A	B	C	D	E
0-49%	**	**	**	600	1,480
50-84%	**	**	**	940	1,800
85-100%	**	210	1,080	>1,080	***

ARTERIAL/NON-STATE ROADWAY ADJUSTMENTS

(alter corresponding volume by the indicated percent)

Lanes	Median	Left Turn Lanes	Adjustment Factors
2	Divided	Yes	+5%
2	Undivided	No	-20%
Multi	Undivided	Yes	-5%
Multi	Undivided	No	-25%

ONE-WAY FACILITIES

Multiply the corresponding two-directional volumes in this table by 0.6.

*Values shown are presented as hourly two-way volumes for levels of service and are for the automobile/truck modes unless specifically stated. Although presented as peak hour two-way volumes, they actually represent peak hour peak direction conditions with an applicable D factor applied. This table does not constitute a standard and should be used only for general planning applications. The computer models from which this table is derived should be used for more specific planning applications. The table and deriving computer models should not be used for corridor or intersection design, where more refined techniques exist. Level of service letter grade thresholds are probably not comparable across modes and, therefore, cross modal comparisons should be made with caution. Furthermore, combining levels of service of different modes into one overall roadway level of service is not recommended. Calculations are based on planning applications of the Highway Capacity Manual, Bicycle LOS Model, Pedestrian LOS Model and Transit Capacity and Quality of Service Manual, respectively for the automobile/truck, bicycle, pedestrian and bus modes.

**Cannot be achieved using table input value defaults.

***Not applicable for that level of service letter grade. For automobile/truck modes, volumes greater than level of service D become F because intersection capacities have been reached. For bicycle and pedestrian modes, the level of service letter grade (including F) is not achievable, because there is no maximum vehicle volume threshold using table input value defaults.

TABLE 4 - 6

GENERALIZED PEAK HOUR TWO-WAY VOLUMES FOR FLORIDA'S RURAL UNDEVELOPED AREAS AND CITIES OR DEVELOPED AREAS LESS THAN 5,000 POPULATION*

RURAL UNDEVELOPED AREAS

FREEWAYS

Lanes	Level of Service A	B	C	D	E
4	2,200	3,670	4,980	5,890	6,550
6	3,440	5,650	7,690	9,090	10,110
8	4,650	7,650	10,400	12,310	13,670

UNINTERRUPTED FLOW HIGHWAYS

Lanes	Divided	Level of Service A	B	C	D	E
2	Undivided	230	430	770	1,340	2,690
4	Divided	1,710	2,800	4,000	5,140	5,710
6	Divided	2,570	4,200	6,000	7,710	8,560

PASSING LANE ADJUSTMENTS
(alter corresponding two-lane LOS A-D volumes indicated percent)

Passing Lane Spacing	Adjustment Factors
5 mi.	+25%
10 mi.	+10%

ISOLATED SIGNALIZED INTERSECTIONS

Lanes	Level of Service A	B	C	D	E
2	**	180	780	1,050	1,190
4	**	290	1,700	2,250	2,470
6	**	440	2,660	3,480	4,220

BICYCLE MODE

(Note: Level of service for the bicycle mode in this table is based on roadway geometrics at 55 mph posted speed and traffic conditions, not number of bicyclists using the facility.) (Multiply motorized vehicle volumes shown below by directional roadway lanes to determine maximum service volume.)

Paved Shoulder/ Bicycle Lane Coverage	A	B	C	D	E
0-49%	**	**	**	**	610
50-84%	**	**	**	**	1,720
85-100%	**	**	390	>390	***

CITIES OR RURAL DEVELOPED AREAS LESS THAN 5000

FREEWAYS

Lanes	Level of Service A	B	C	D	E
4	2,220	3,670	4,980	5,890	6,550
6	3,440	5,650	7,690	9,090	10,110
8	4,650	7,650	10,400	12,310	13,670

UNINTERRUPTED FLOW HIGHWAYS

Lanes	Divided	Level of Service A	B	C	D	E
2	Undivided	300	840	1,480	2,030	2,560
4	Divided	1,730	2,800	4,060	5,250	5,960
6	Divided	2,600	4,200	6,080	7,870	8,940

INTERRUPTED FLOW ARTERIALS

Lanes	Divided	Level of Service A	B	C	D	E
2	Undivided	**	210	1,070	1,350	1,450
4	Divided	**	520	2,470	2,850	3,020
6	Divided	**	810	3,820	4,290	4,540

NON-STATE SIGNALIZED ROADWAYS

(signalized intersection analysis)

Lanes	Level of Service A	B	C	D	E
2	**	**	180	740	980

BICYCLE MODE

(Note: Level of service for the bicycle mode in this table is based on roadway geometrics at 45 mph posted speed and traffic conditions, not number of bicyclists using the facility.) (Multiply motorized vehicle volumes shown below by number of directional roadway lanes to determine maximum service volumes.)

Paved Shoulder/ Bicycle Lane Coverage	Level of Service A	B	C	D	E
0-49%	**	**	270	670	>670
50-84%	**	200	340	>340	***
85-100%	280	390	>390	***	***

PEDESTRIAN MODE

(Note: Level of service for the pedestrian mode in this table is based on roadway geometric at 45 mph posted speed and traffic conditions, not number of pedestrian using the facility.) (Multiply motorized vehicle volumes shown by number of directional roadway lanes to determine maximum service volumes.)

Sidewalk Coverage	Level of Service A	B	C	D	E
0-49%	**	**	**	430	1,370
50-84%	**	**	**	780	1,750
85-100%	**	**	920	>920	***

05/17/07

Source: Florida Department of Transportation
Systems Planning Office
605 Suwannee Street, MS 19
Tallahassee, FL 32399-0450

http://www.dot.state.fl.us/planning/systems/sm/los/default.htm

ARTERIAL/NON-STATE ROADWAY ADJUSTMENTS

(alter corresponding volume by the indicated percent)

Lanes	Median	Left Turn Lanes	Adjustment Factors
2	Divided	Yes	+5%
2	Undivided	No	-20%
Multi	Undivided	Yes	-5%
Multi	Undivided	No	-25%

*Values shown are presented as hourly two-way volumes for levels of service and are for the automobile/truck modes unless specifically stated. Although presented as peak hour two-way volumes, they actually represent peak hour peak direction conditions with an applicable D factor applied. This table does not constitute a standard and should be used only for general planning applications. The computer models from which this table is derived should be used for more specific planning applications. The table and deriving computer models should not be used for corridor or intersection design, where more refined techniques exist. Level of service letter grade thresholds are probably not comparable across modes and, therefore, cross modal comparisons should be made with caution. Furthermore, combining levels of service of different modes into one overall roadway level of service is not recommended. Calculations are based on planning applications of the Highway Capacity Manual, Bicycle LOS Model, Pedestrian LOS Model and Transit Capacity and Quality of Service Manual, respectively for the automobile/truck, bicycle, pedestrian and bus modes.

**Cannot be achieved using table input value defaults.

***Not applicable for that level of service letter grade. For automobile/truck modes, volumes greater than level of service D become F because intersection capacities have been reached. For bicycle and pedestrian modes, the level of service letter grade (including F) is not achievable, because there is no maximum vehicle volume threshold using table input value defaults.

TABLE 4 – 7

GENERALIZED PEAK HOUR DIRECTIONAL VOLUMES FOR FLORIDA'S URBANIZED AREAS*

UNINTERRUPTED FLOW HIGHWAYS

Lanes	Divided	Level of Service A	B	C	D	E
1	Undivided	110	400	790	1,130	1,440
2	Divided	1,060	1,720	2,500	3,230	3,670
3	Divided	1,600	2,590	3,740	4,840	5,500

STATE TWO-WAY ARTERIALS

Class I (>0.00 to 1.99 signalized intersections per mile)

Lanes	Divided	Level of Service A	B	C	D	E
1	Undivided	**	220	720	860	890
2	Divided	250	1,530	1,810	1,860	***
3	Divided	380	2,330	2,720	2,790	***
4	Divided	490	3,030	3,460	3,540	***

Class II (2.00 to 4.50 signalized intersections per mile)

Lanes	Divided	Level of Service A	B	C	D	E
1	Undivided	**	100	590	810	850
2	Divided	**	220	1,360	1,710	1,800
3	Divided	**	340	2,110	2,570	2,710
4	Divided	**	440	2,790	3,330	3,500

Class III (more than 4.5 signalized intersections per mile and not within primary city central business district of an urbanized area over 750,000)

Lanes	Divided	Level of Service A	B	C	D	E
1	Undivided	**	**	280	660	810
2	Divided	**	**	650	1,510	1,720
3	Divided	**	**	1,020	2,330	2,580
4	Divided	**	**	1,350	3,070	3,330

Class IV (more than 4.5 signalized intersections per mile and within primary city central business district of an urbanized area over 750,000)

Lanes	Divided	Level of Service A	B	C	D	E
1	Undivided	**	**	270	720	780
2	Divided	**	**	650	1,580	1,660
3	Divided	**	**	1,000	2,390	2,490
4	Divided	**	**	1,350	3,130	3,250

NON-STATE ROADWAYS

Major City/County Roadways

Lanes	Divided	Level of Service A	B	C	D	E
1	Undivided	**	**	480	760	810
2	Divided	**	**	1,120	1,620	1,720
3	Divided	**	**	1,740	2,450	2,580

Other Signalized Roadways (signalized intersection analysis)

Lanes	Divided	Level of Service A	B	C	D	E
1	Undivided	**	**	250	530	660
2	Divided	**	**	580	1,140	1,320

Source: Florida Department of Transportation 05/17/07
Systems Planning Office
605 Suwannee Street, MS 19
Tallahassee, FL 32399-0450
http://www.dot.state.fl.usplanning/systems/sm/los/default.htm

FREEWAYS

Interchange spacing ≥ 2 mi. apart

Lanes	Level of Service A	B	C	D	E
2	1,270	2,110	2,940	3,580	3,980
3	1,970	3,260	4,550	5,530	6,150
4	2,660	4,410	6,150	7,480	8,320
5	3,360	5,560	7,760	9,440	10,480
6	4,050	6,710	9,360	11,390	12,650

Interchange spacing < 2 mi. apart

Lanes	Level of Service A	B	C	D	E
2	1,130	1,840	2,660	3,440	3,910
3	1,780	2,890	4,180	5,410	6,150
4	2,340	3,940	5,700	7,380	8,380
5	3,080	4,990	7,220	9,340	10,620
6	3,730	6,040	8,740	11,310	12,850

BICYCLE MODE

(**Note:** Level of service for the bicycle mode in this table is based on roadway geometrics at 40 mph posted speed and traffic conditions, not number of bicyclists using the facility.) (Multiply motorized vehicle volumes shown below by number of directional roadway lanes to determine maximum service volumes.)

Paved Shoulder/ Bicycle Lane Coverage	Level of Service A	B	C	D	E
0-49%	**	**	170	720	>720
50-84%	**	130	210	>210	***
85-100%	160	380	>380	***	***

PEDESTRIAN MODE

(**Note:** Level of service for the pedestrian mode in this table is based on roadway geometrics at 40 mph posted speed and traffic conditions, not the number of pedestrians using the facility.) (Multiply motorized vehicle volumes shown below by number of directional roadway lanes to determine maximum service volumes.)

Sidewalk Coverage	Level of Service A	B	C	D	E
0-49%	**	**	**	330	810
50-84%	**	**	**	520	990
85-100%	**	120	590	>590	***

BUS MODE (Scheduled Fixed Route)

(Note: Buses per hour shown are only for the **peak hour** in the **single direction** of the higher traffic flow.)

Sidewalk Coverage	Level of Service (Buses per hour) A	B	C	D	E
0-84%	**	>5	≥4	≥3	≥2
85-100%	>6	>4	≥3	≥2	≥1

ARTERIAL/NON-STATE ROADWAY ADJUSTMENTS

(alter corresponding volume by the indicated percent)

Lanes	Median	Left Turns Lanes	Adjustment Factors
1	Divided	Yes	+5%
1	Undivided	No	-20%
Multi	Undivided	Yes	-5%
Multi	Undivided	No	-25%

ONE WAY FACILITIES
Increase corresponding volume by 1.2.

* Values shown are hourly directional volumes for levels of service and are for the automobile/truck modes unless specifically stated. To convert to annual average daily traffic volumes, these volumes must be divided by appropriate D and K factors. This table does not constitute a standard and should be used only for general planning applications. The computer models from which this table is derived should be used for more specific planning applications. The table and deriving computer models should not be used for corridor or intersection design, where more refined techniques exist. Level of service letter grade thresholds are probably not comparable across modes and, therefore, cross modal comparisons should be made with caution. Furthermore, combining levels of service of different modes into one overall roadway level of service is not recommended. Calculations are based on planning applications of the Highway Capacity Manual, Bicycle LOS Model, Pedestrian LOS Model and Transit Capacity and Quality of Service Manual, respectively for the automobile/truck, bicycle, pedestrian and bus modes.

**Cannot be achieved using table input value defaults.

***Not applicable for that level of service letter grade. For automobile/truck modes, volumes greater than level of service D become F because intersection capacities have been reached. For bicycle and pedestrian modes, the level of service letter grade (including F) is not achievable, because there is no maximum vehicle volume threshold using table input value defaults.

TABLE 4 - 8

GENERALIZED PEAK HOUR DIRECTIONAL VOLUMES FOR FLORIDA'S AREAS TRANSITIONING INTO URBANIZED AREAS OR AREAS OVER 5,000 NOT IN URBANIZED AREAS*

UNINTERRUPTED FLOW HIGHWAYS

Lanes	Divided	Level of Service A	B	C	D	E
1	Undivided	120	420	790	1,120	1,410
2	Divided	980	1,590	2,300	2,980	3,390
3	Divided	1,470	2,390	3,460	4,470	5,080

STATE TWO-WAY ARTERIALS

Class I (>0.00 to 1.99 signalized intersections per mile)

Lanes	Divided	Level of Service A	B	C	D	E
1	Undivided	**	210	690	820	860
2	Divided	240	1,470	1,730	1,810	***
3	Divided	370	2,260	2,600	2,710	***

Class II (2.00 to 4.50 signalized intersections per mile)

Lanes	Divided	Level of Service A	B	C	D	E
1	Undivided	**	**	560	760	810
2	Divided	**	200	1,290	1,620	1,700
3	Divided	**	320	2,000	2,430	2,560

Class III (more than 4.5 signalized intersections per mile)

Lanes	Divided	Level of Service A	B	C	D	E
1	Undivided	**	**	260	620	770
2	Divided	**	**	620	1,440	1,630
3	Divided	**	**	970	2,220	2,450

NON-STATE ROADWAYS

Major City/County Roadways

Lanes	Divided	Level of Service A	B	C	D	E
1	Undivided	**	**	370	720	770
2	Divided	**	**	870	1,550	1,630
3	Divided	**	**	1,360	2,330	2,450

Other Signalized Roadways
(signalized intersection analysis)

Lanes	Divided	Level of Service A	B	C	D	E
1	Undivided	**	**	230	490	630
2	Divided	**	**	540	1,070	1,270

Source: Florida Department of Transportation 05/17/07
Systems Planning Office
605 Suwannee Street, MS 19
Tallahassee, FL 32399-0450
http://www.dot.state.fl.us/planning/systems/sm/los/default.htm

FREEWAYS

Lanes	Level of Service A	B	C	D	E
2	1,290	2,130	2,890	3,420	3,800
3	2,000	3,290	4,460	5,280	5,870
4	2,700	4,450	6,030	7,140	7,940
5	3,400	5,600	7,610	9,010	10,010

BICYCLE MODE

(**Note:** Level of service for the bicycle mode in this table is based on roadway geometrics at 40 mph posted speed and traffic conditions, not number of bicyclists using the facility.) (Multiply motorized vehicle volumes shown below by number of directional roadway lanes to determine maximum service volumes.)

Paved Shoulder/ Bicycle Lane Coverage	Level of Service A	B	C	D	E
0-49%	**	100	170	720	>720
50-84%	**	130	210	>210	***
85-100%	170	380	>380	***	***

PEDESTRIAN MODE

(**Note:** Level of service for the pedestrian mode in this table is based on roadway geometric at 40 mph posted speed and traffic conditions, not number of pedestrians using the facility.) (Multiply motorized vehicle volumes shown by number of directional roadway lanes to determine maximum service volumes.)

Sidewalk Coverage	Level of Service A	B	C	D	E
0-49%	**	**	**	330	810
50-84%	**	**	**	520	990
85-100%	**	120	590	>590	***

ARTERIAL/NON-STATE ROADWAY ADJUSTMENTS

(alter corresponding volume by the indicated percent)

Lanes	Median	Left Turn Lanes	Adjustment Factors
1	Divided	Yes	+5%
1	Undivided	No	-20%
Multi	Undivided	Yes	-5%
Multi	Undivided	No	-25%

ONE-WAY FACILITIES

Increase corresponding volume by 1.2.

* Values shown are hourly directional volumes for levels of service and are for the automobile/truck modes unless specifically stated. To convert to annual average daily traffic volumes, these volumes must be divided by appropriate D and K factors. This table does not constitute a standard and should be used only for general planning applications. The computer models from which this table is derived should be used for more specific planning applications. The table and deriving computer models should not be used for corridor or intersection design, where more refined techniques exist. Level of service letter grade thresholds are probably not comparable across modes and, therefore, cross modal comparisons should be made with caution. Furthermore, combining levels of service of different modes into one overall roadway level of service is not recommended. Calculations are based on planning applications of the Highway Capacity Manual, Bicycle LOS Model, Pedestrian LOS Model and Transit Capacity and Quality of Service Manual, respectively for the automobile/truck, bicycle, pedestrian and bus modes.

**Cannot be achieved using table input value defaults.

***Not applicable for that level of service letter grade. For automobile/truck modes, volumes greater than level of service D become F because intersection capacities have been reached. For bicycle and pedestrian modes, the level of service letter grade (including F) is not achievable, because there is no maximum vehicle volume threshold using table input value defaults.

TABLE 4 - 9

GENERALIZED PEAK HOUR DIRECTIONAL VOLUMES FOR FLORIDA'S RURAL UNDEVELOPED AREAS AND CITIES OR DEVELOPED AREAS LESS THAN 5,000 POPULATION*

RURAL UNDEVELOPED AREAS

FREEWAYS

	Level of Service				
Lanes	A	B	C	D	E
2	1,220	2,020	2,740	3,240	3,600
3	1,890	3,110	4,230	5,000	5,560
4	2,560	4,210	5,720	6,770	7,520

UNINTERRUPTED FLOW HIGHWAYS

		Level of Service				
Lanes	Divided	A	B	C	D	E
1	Undivided	120	230	420	730	1,470
2	Divided	940	1,540	2,200	2,830	3,140
3	Divided	1,410	2,310	3,330	4,240	4,710

PASSING LANE ADJUSTMENTS
(alter corresponding two-lane LOS A-D volumes indicated percent)

Passing Lane Spacing	Adjustment Factors
5 mi.	+25%
10 mi.	+10%

ISOLATED SIGNALIZED INTERSECTIONS

	Level of Service				
Lanes	A	B	C	D	E
1	**	100	430	580	650
2	**	160	940	1,240	1,360
3	**	240	1,460	1,910	2,320

BICYCLE MODE

(Note: Level of service for the bicycle mode in this table is based on roadway geometrics at 55 mph posted speed and traffic conditions, not number of bicyclists using the facility.) (Multiply motorized vehicle volumes shown below by directional roadway lanes to determine maximum service volume.)

Paved Shoulder/ Bicycle Lane					
Coverage	A	B	C	D	E
0-49%	**	**	**	**	340
50-84%	**	**	**	**	950
85-100%	**	**	210	>210	***

05/17/07

Source: Florida Department of Transportation
Systems Planning Office
605 Suwannee Street, MS 19
Tallabassee, FL 32399-0450

http://www.dot.state.fl.us/planning/systems/sm/los/default.htm

CITIES OR RURAL DEVELOPED AREAS LESS THAN 5000

FREEWAYS

	Level of Service				
Lanes	A	B	C	D	E
2	1,220	2,020	2,740	3,240	3,600
3	1,890	3,110	4,230	5,000	5,560
4	2,560	4,210	5,720	6,770	7,520

UNINTERRUPTED FLOW HIGHWAYS

		Level of Service				
Lanes	Divided	A	B	C	D	E
1	Undivided	160	460	810	1,110	1,400
2	Divided	950	1,540	2,230	2,890	3,280
3	Divided	1,430	2,310	3,350	4,330	4,920

INTERRUPTED FLOW ARTERIALS

		Level of Service				
Lanes	Divided	A	B	C	D	E
1	Undivided	**	120	590	740	800
2	Divided	**	290	1,360	1,570	1,660
3	Divided	**	450	2,100	2,360	2,500

NON-STATE SIGNALIZED ROADWAYS

(signalized intersection analysis)

	Level of Service				
Lanes	A	B	C	D	E
1	**	**	100	410	540

BICYCLE MODE

(Note: Level of service for the bicycle mode in this table is based on roadway geometrics at 45 mph posted speed and traffic conditions, not number of bicyclists using the facility.) (Multiply motorized vehicle volumes shown below by number of directional roadway lanes to determine maximum service volumes.)

Paved Shoulder/ Bicycle Lane					
Coverage	A	B	C	D	E
0-49%	**	**	150	370	>370
50-84%	**	110	180	930	>930
85-100%	150	210	>210	***	***

PEDESTRIAN MODE

(Note: Level of service for the pedestrian mode in this table is based on roadway geometric at 45 mph posted speed and traffic conditions, not number of pedestrian using the facility.) (Multiply motorized vehicle volumes sbown by number of directional roadway lanes to determine maximum service volumes.)

	Level of Service				
Sidewalk Coverage	A	B	C	D	E
0-49%	**	**	**	240	760
50-84%	**	**	**	430	960
85-100%	**	**	500	>500	***

ARTERIAL/NON-STATE ROADWAY ADJUSTMENTS

(alter corresponding volume by the indicated percent)

Lanes	Median	Left Turn Lanes	Adjustment Factors
1	Divided	Yes	+5%
1	Undivided	No	-20%
Multi	Undivided	Yes	-5%
Multi	Undivided	No	-25%

* Values shown are hourly directional volumes for levels of service and are for the automobile/truck modes unless specifically stated. To convert to annual average daily traffic volumes, these volumes must be divided by appropriate D and K factors. This table does not constitute a standard and should be used only for general planning applications. The computer models from which this table is derived should be used for more specific planning applications. The table and deriving computer models should not be used for corridor or intersection design, where more refined techniques exist. Level of service letter grade thresholds are probably not comparable across modes and, therefore, cross modal comparisons should be made with caution. Furthermore, combining levels of service of different modes into one overall roadway level of service is not recommended. Calculations are based on planning applications of the Highway Capacity Manual, Bicycle LOS Model, Pedestrian LOS Model and Transit Capacity and Quality of Service Manual, respectively for the automobile/truck, bicycle, pedestrian and bus modes.

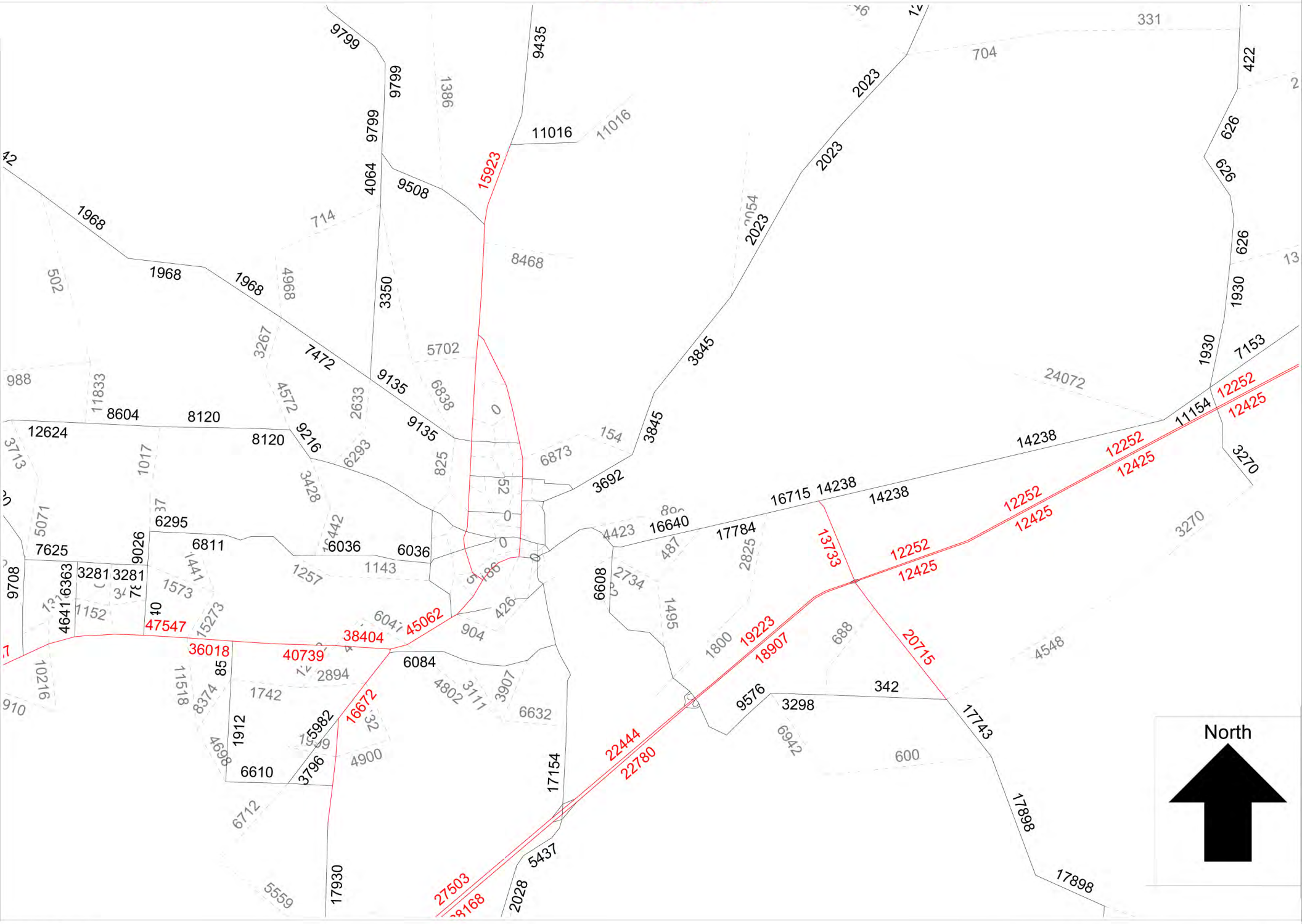
**Cannot be achieved using table input value defaults.

***Not applicable for that level of service letter grade. For automobile/truck modes, volumes greater than level of service D become F because intersection capacities have been reached. For bicycle and pedestrian modes, the level of service letter grade (including F) is not achievable, because there is no maximum vehicle volume threshold using table input value defaults.

Appendix III:
Project 2035 AADTs

2-lane Undivided Roadway Configuration for New Corridors

NWFRPM 2035 CF No-Build
AADT (2-Way)



NWFRPM 2035 CF ALT 1
AADT (2-WAY)

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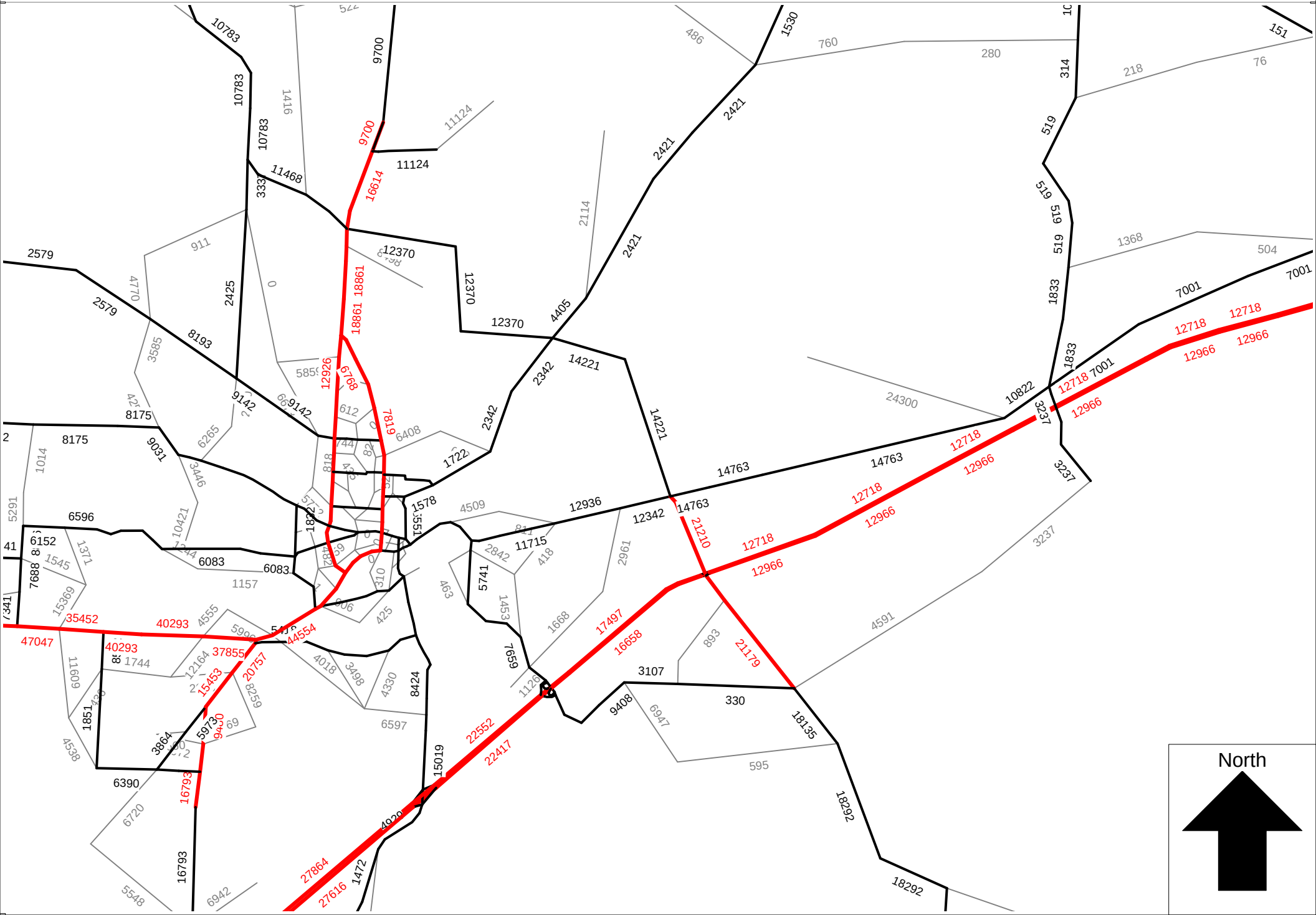
cube

NWFRPM 2035 CF ALT 2
AADT (2-WAY)



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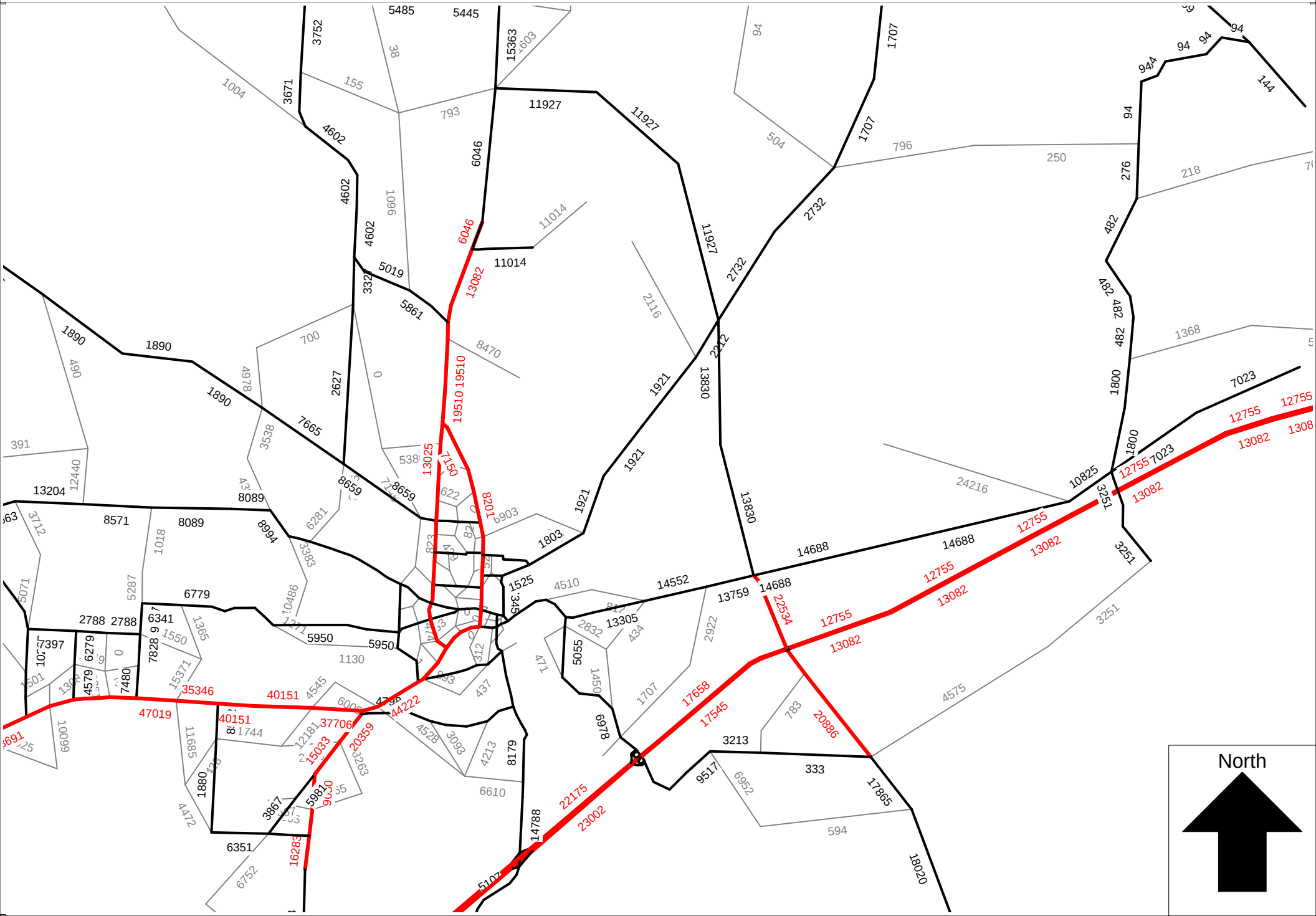
NWFRPM 2035 CF ALT 3
AADT (2-WAY)



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NWFRPM 2035 CF ALT 4
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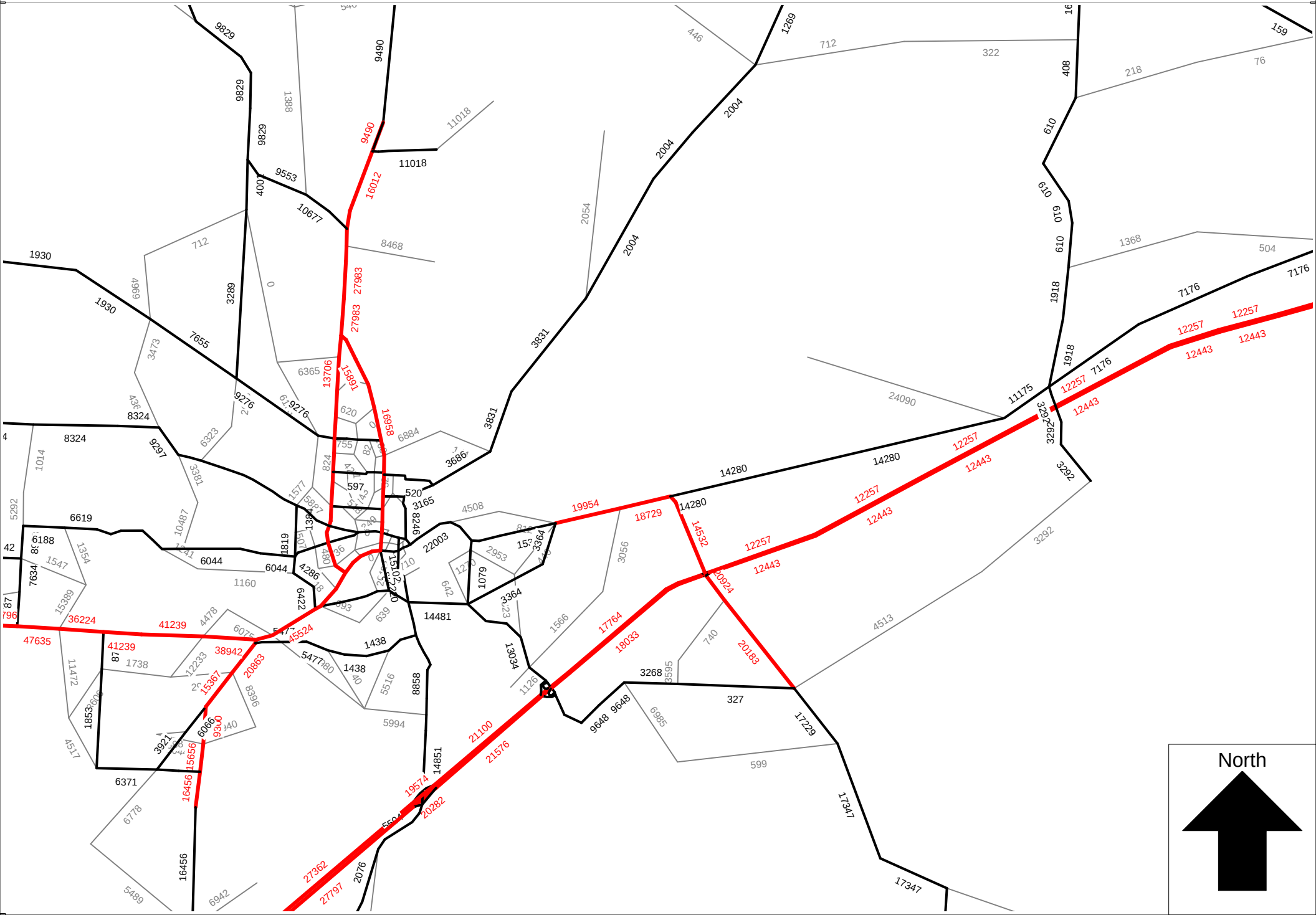

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NWFRPM 2035 CF ALT 5
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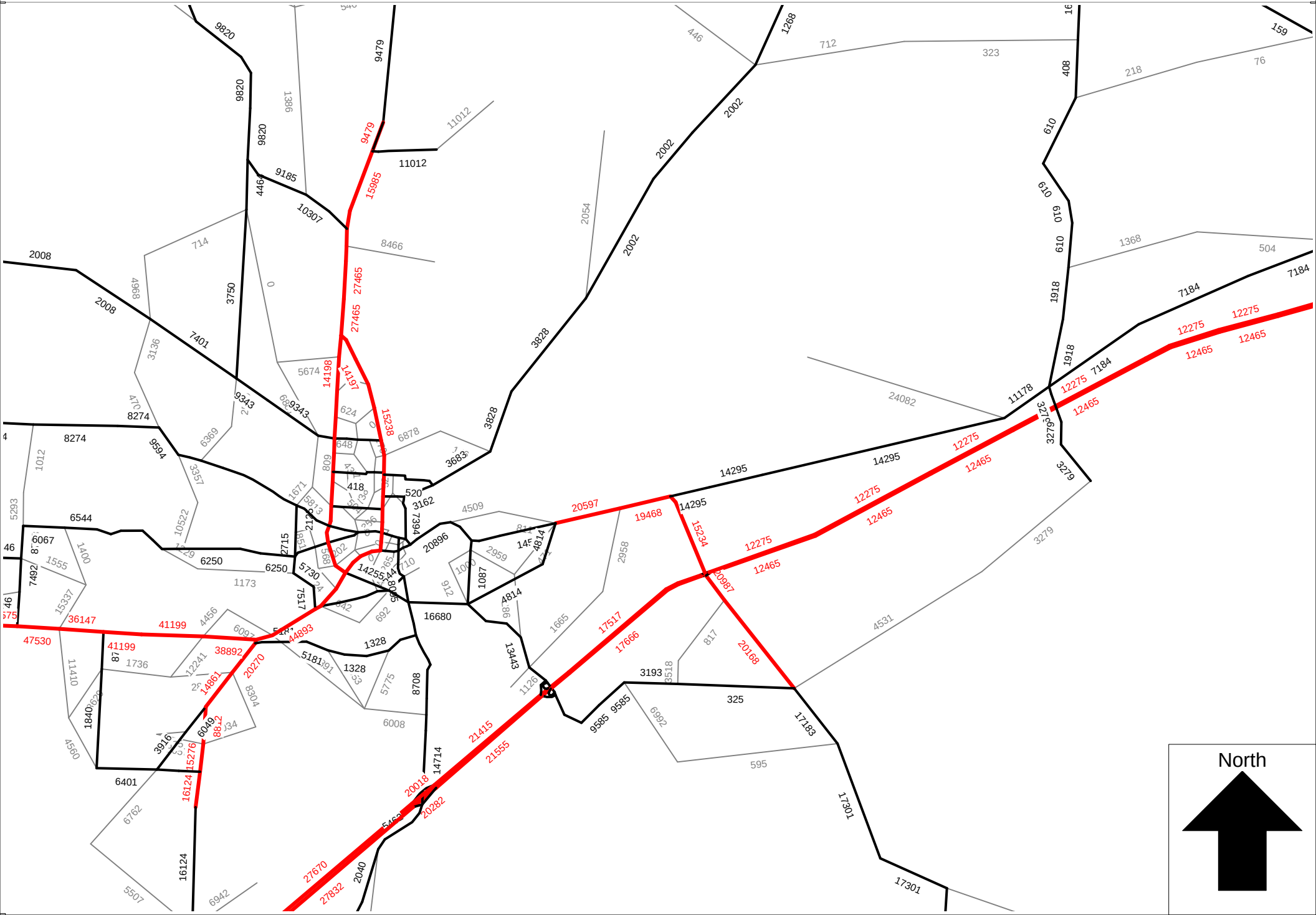

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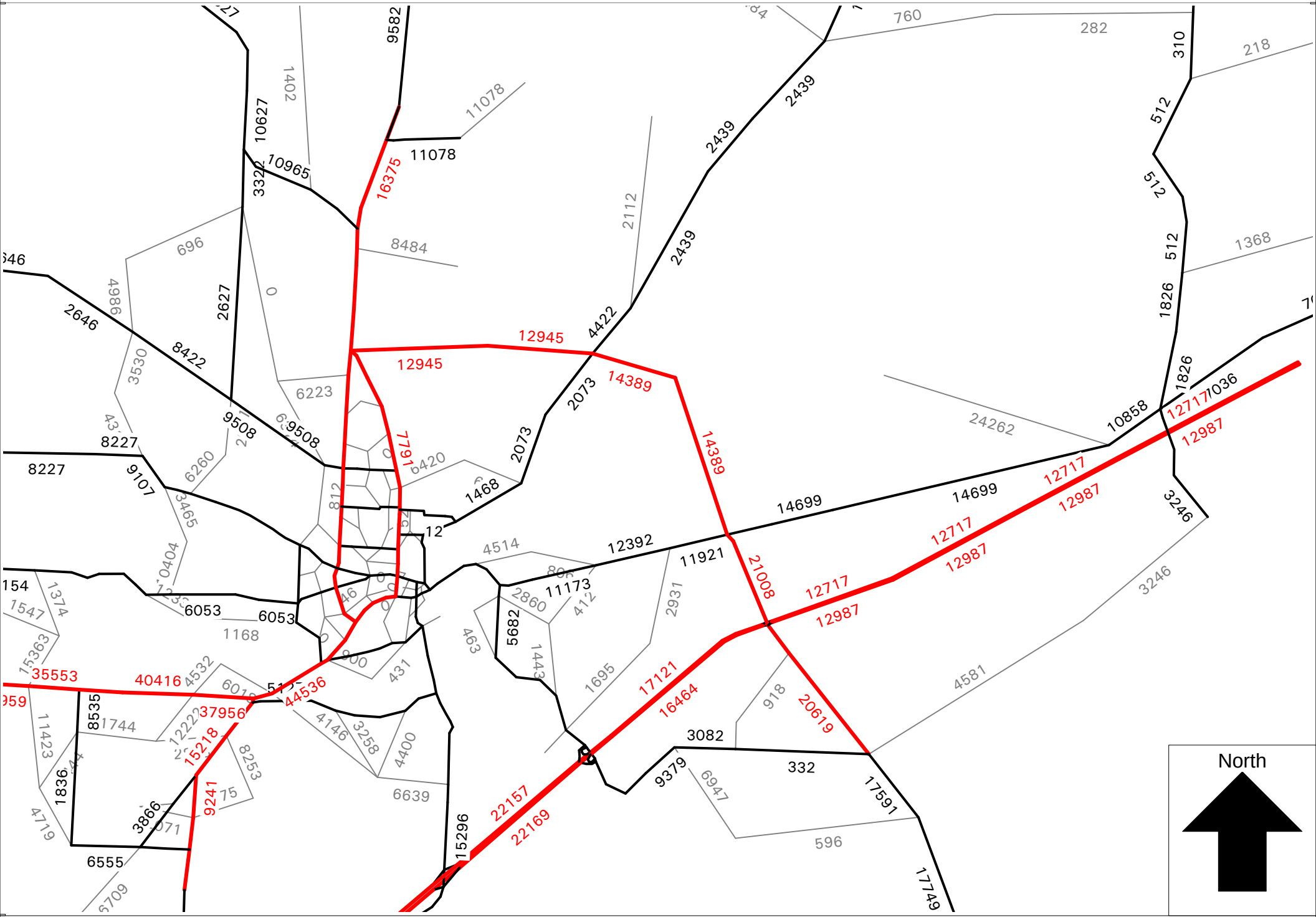
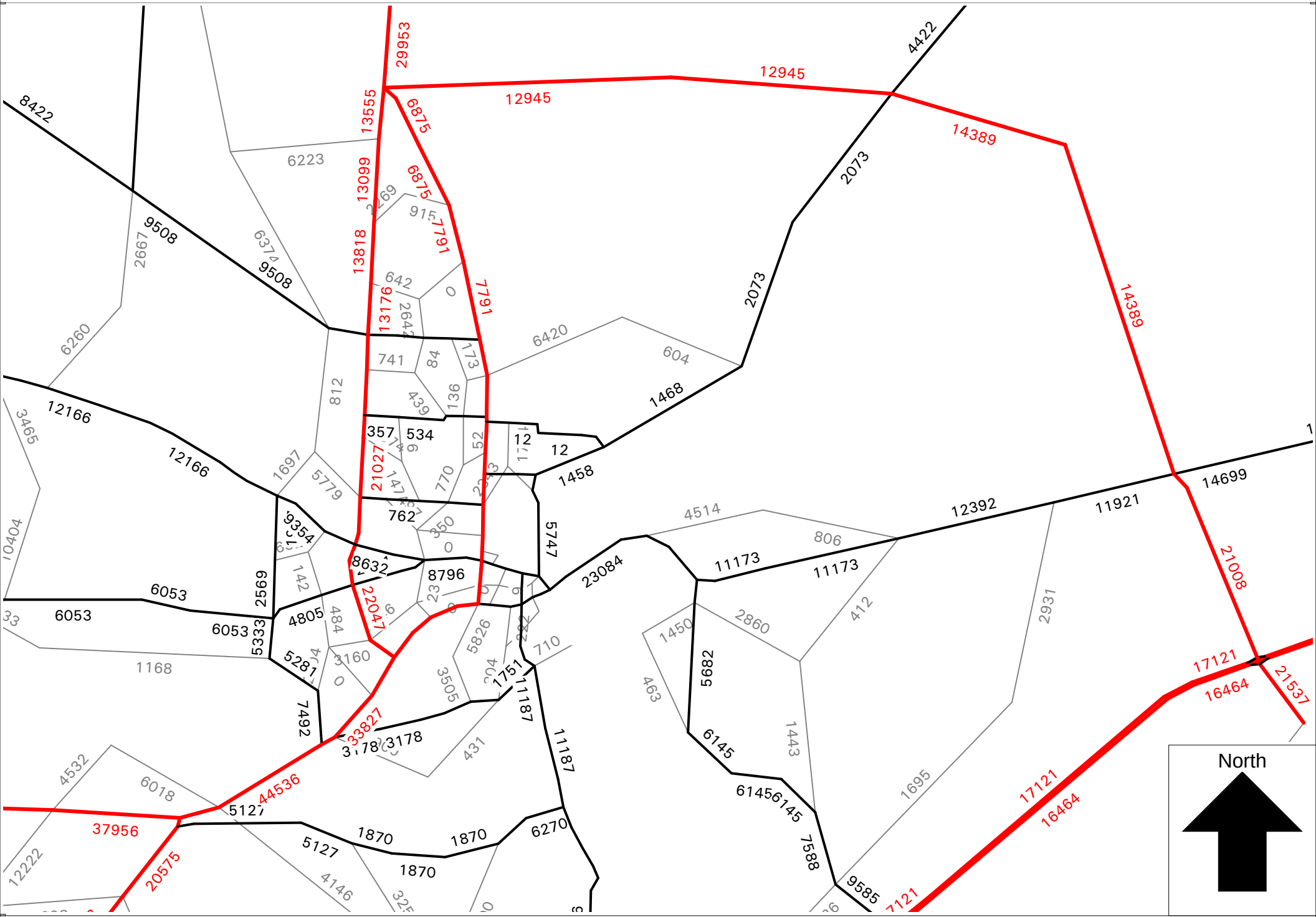
4-lane Divided Roadway Configuration for New Corridors

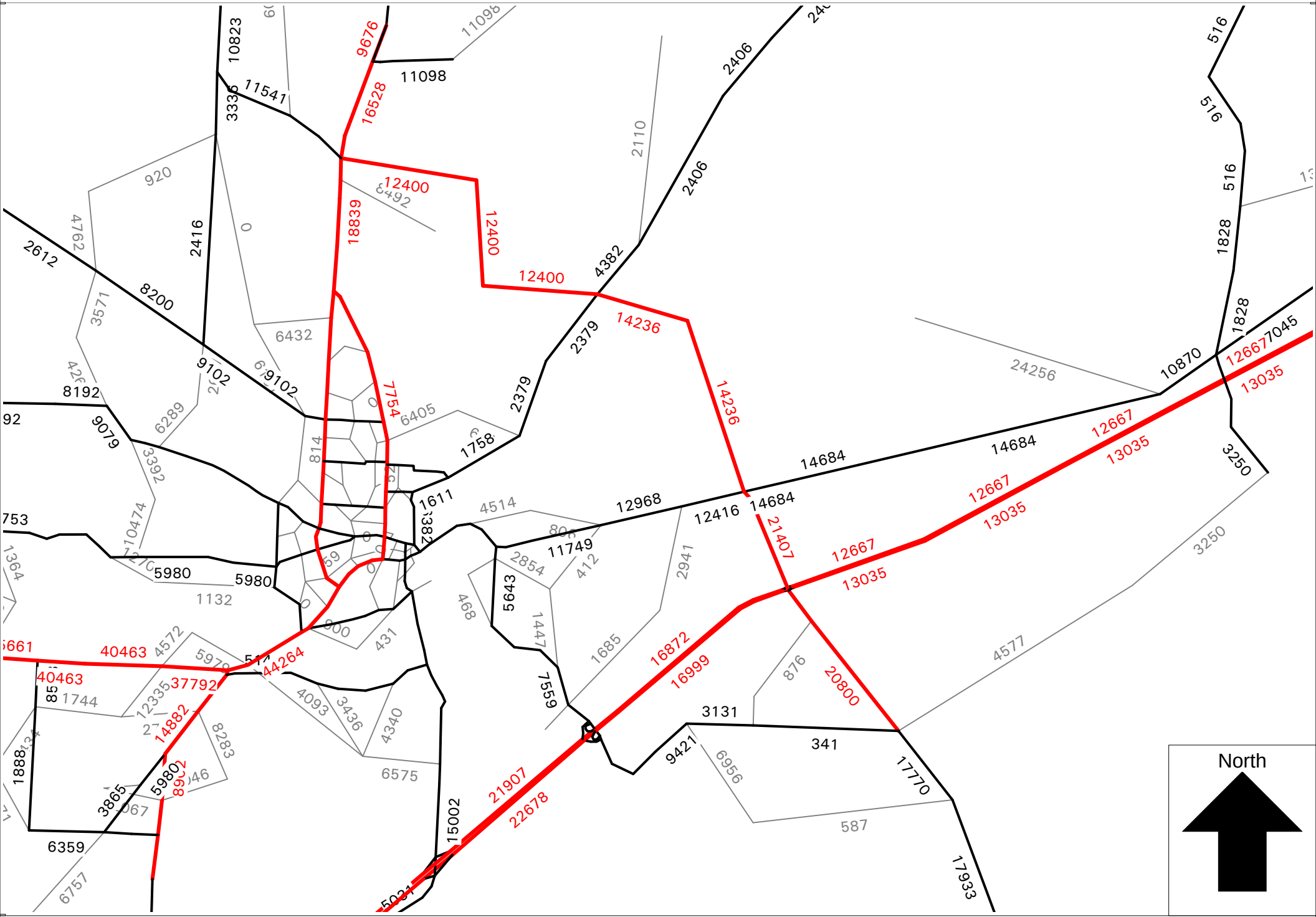
NWFRPM 2035 CF 4-LANE ALT Q - SCENARIO 1C (4-LANE DIVIDED)
AADT (2-WAY)



NWFRPM 2035 CF 4-LANE ALT Q - SCENARIO 1C (4-LANE DIVIDED)
AADT (2-WAY)



NWFRPM 2035 CF 4-LANE ALT R - SCENARIO 2A (4-LANE DIVIDED)
AADT (2-WAY)



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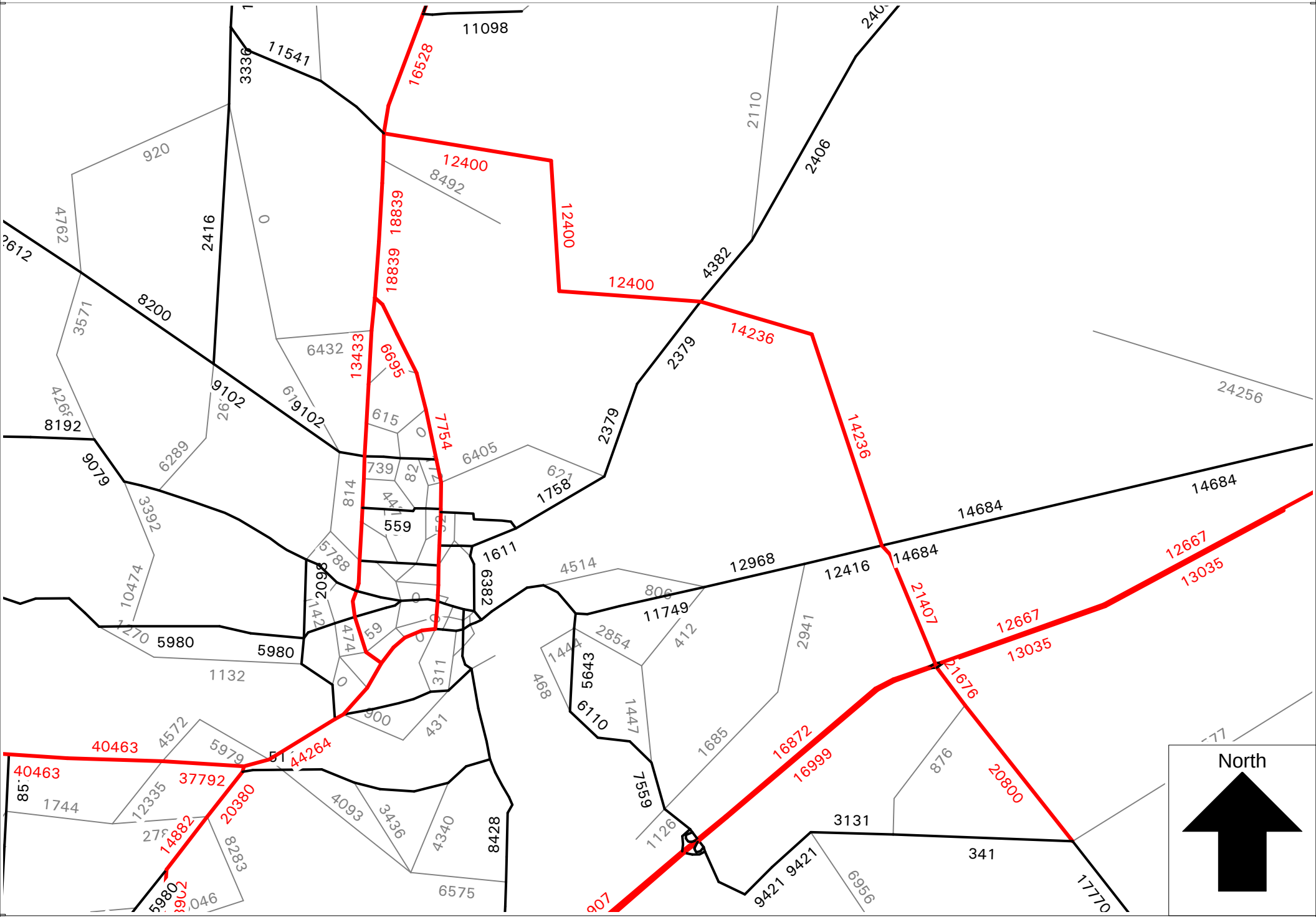
NWFRPM 2035 CF 4-LANE ALT R - SCENARIO 2A (4-LANE DIVIDED)
AADT (2-WAY)



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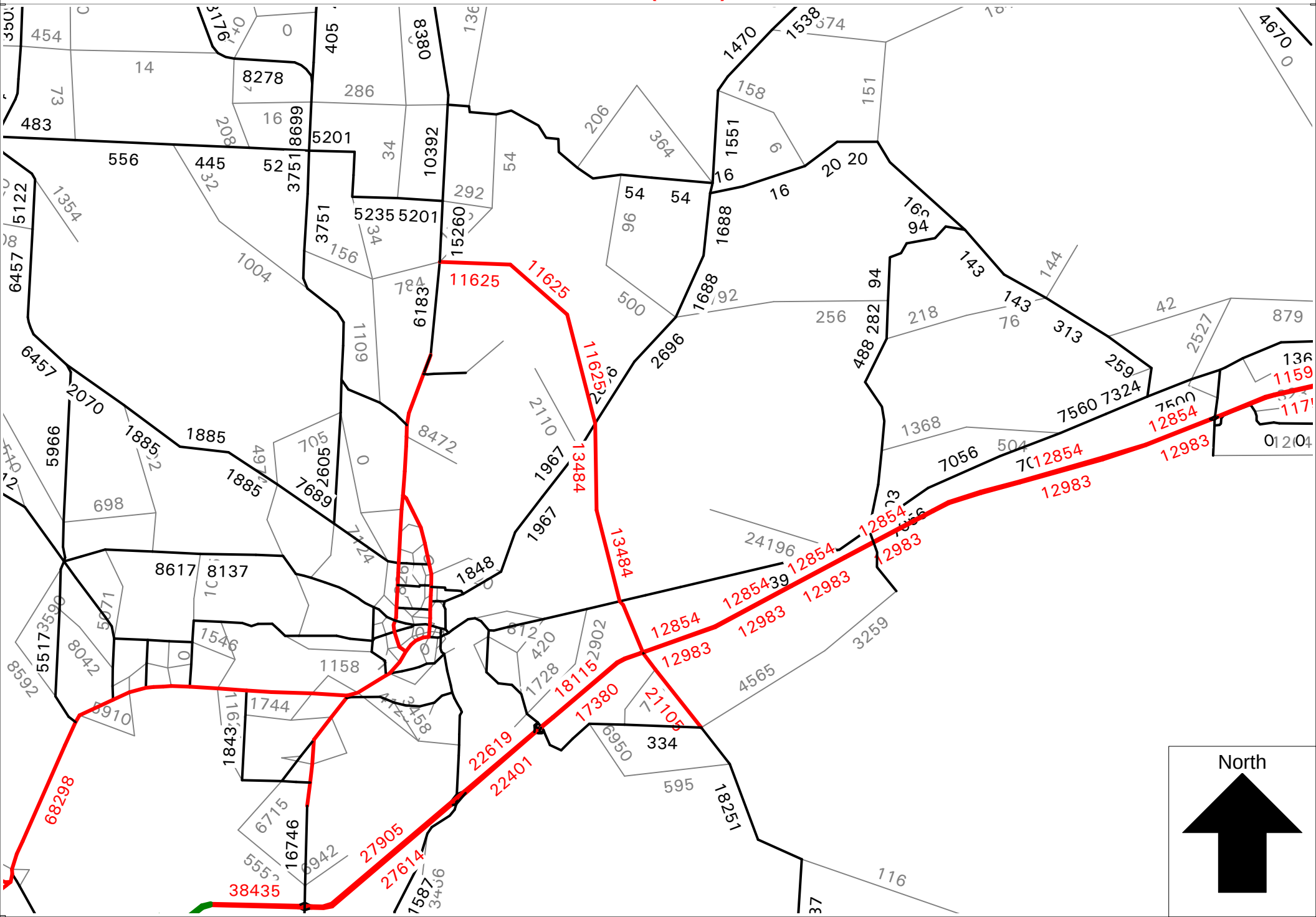
NWFRPM 2035 CF 4-LANE ALT S - SCENARIO 3A (4-LANE DIVIDED)
AADT (2-WAY)



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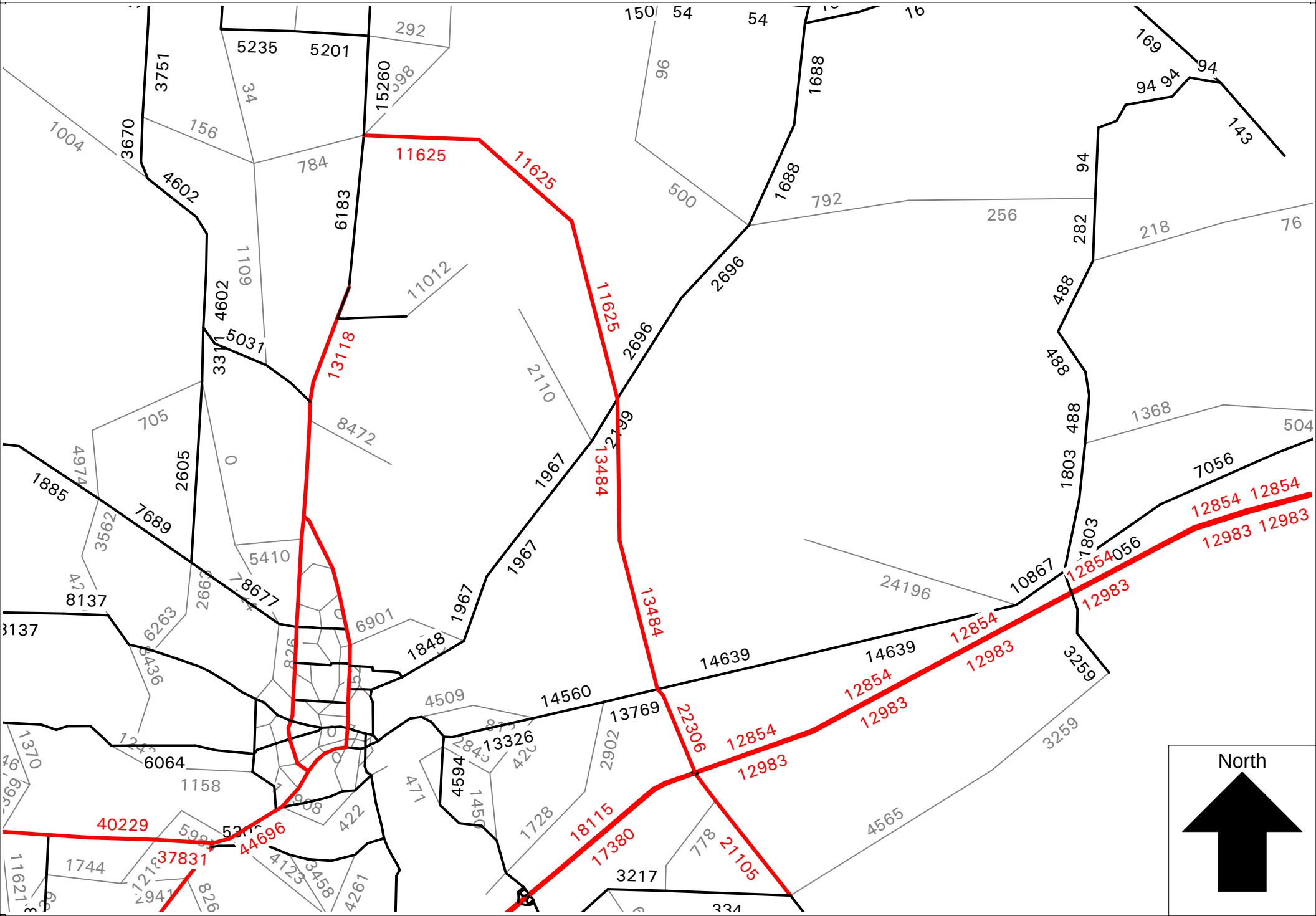
NWFRPM 2035 CF 4-LANE ALT S - SCENARIO 3A (4-LANE DIVIDED)
AADT (2-WAY)



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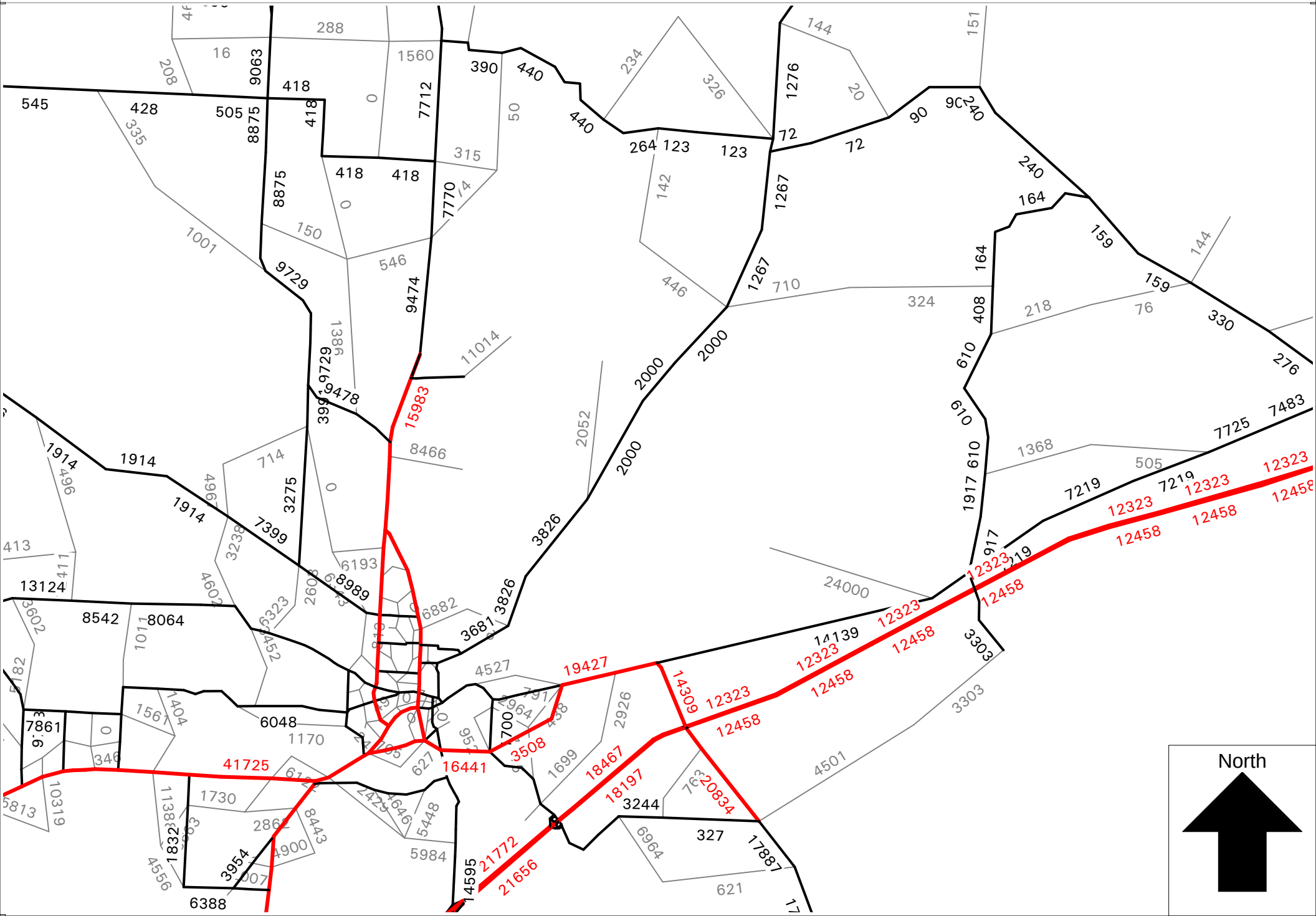
NWFRPM 2035 CF 4-LANE ALT T - SCENARIO 4AB (4-LANE DIVIDED)
AADT (2-WAY)



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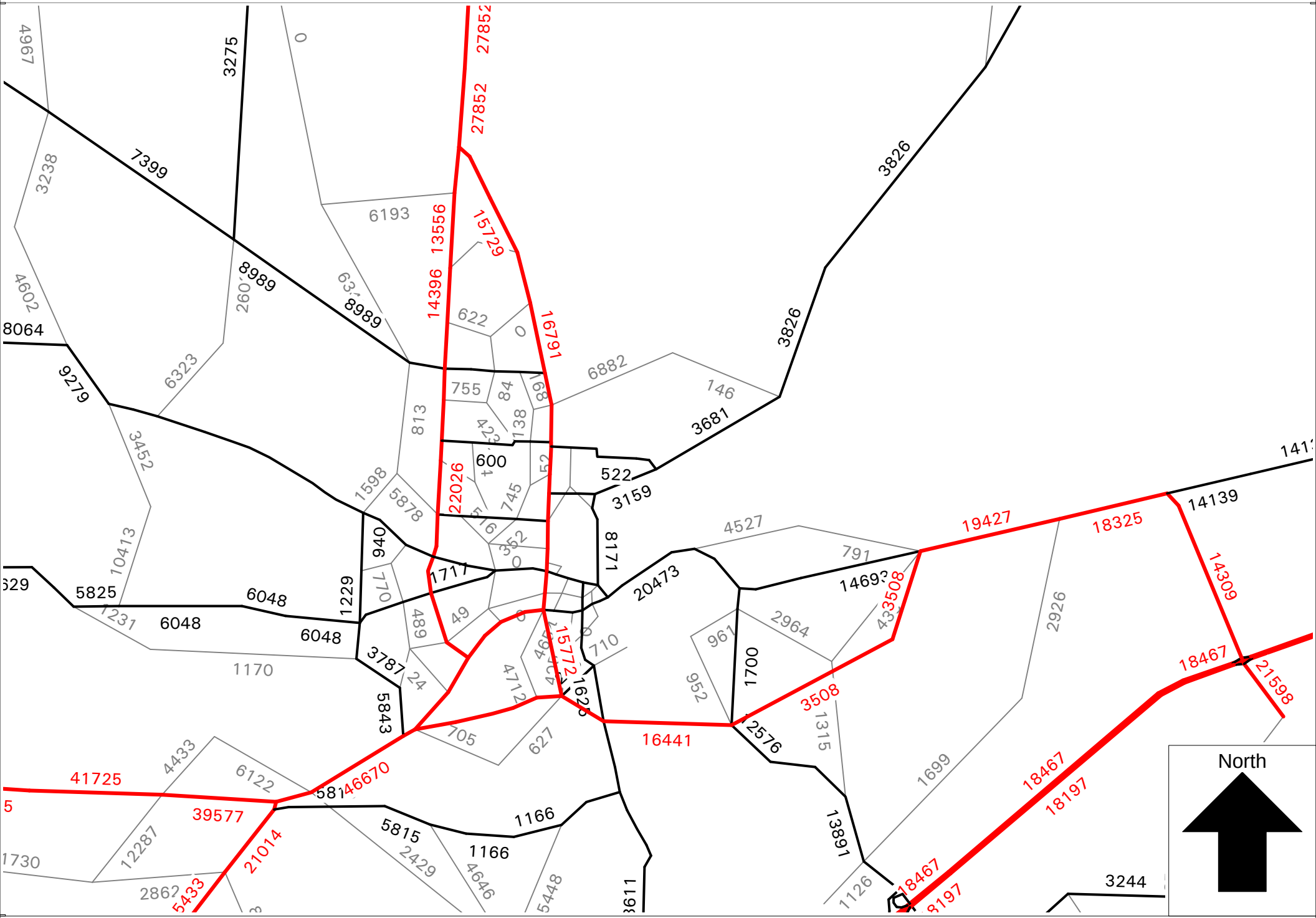
NWFRPM 2035 CF 4-LANE ALT T - SCENARIO 4AB (4-LANE DIVIDED)
AADT (2-WAY)



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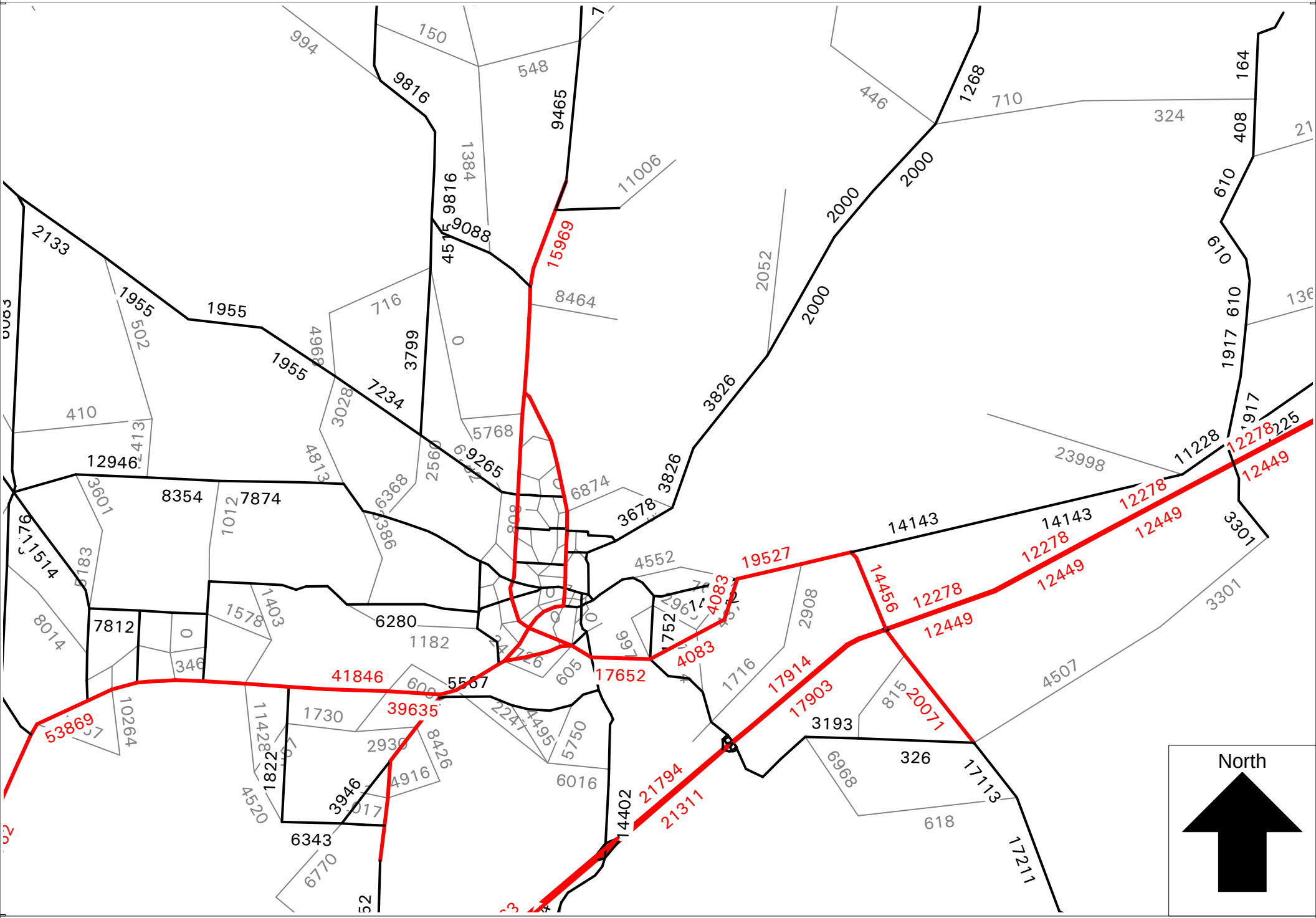
AADT (2-WAY)



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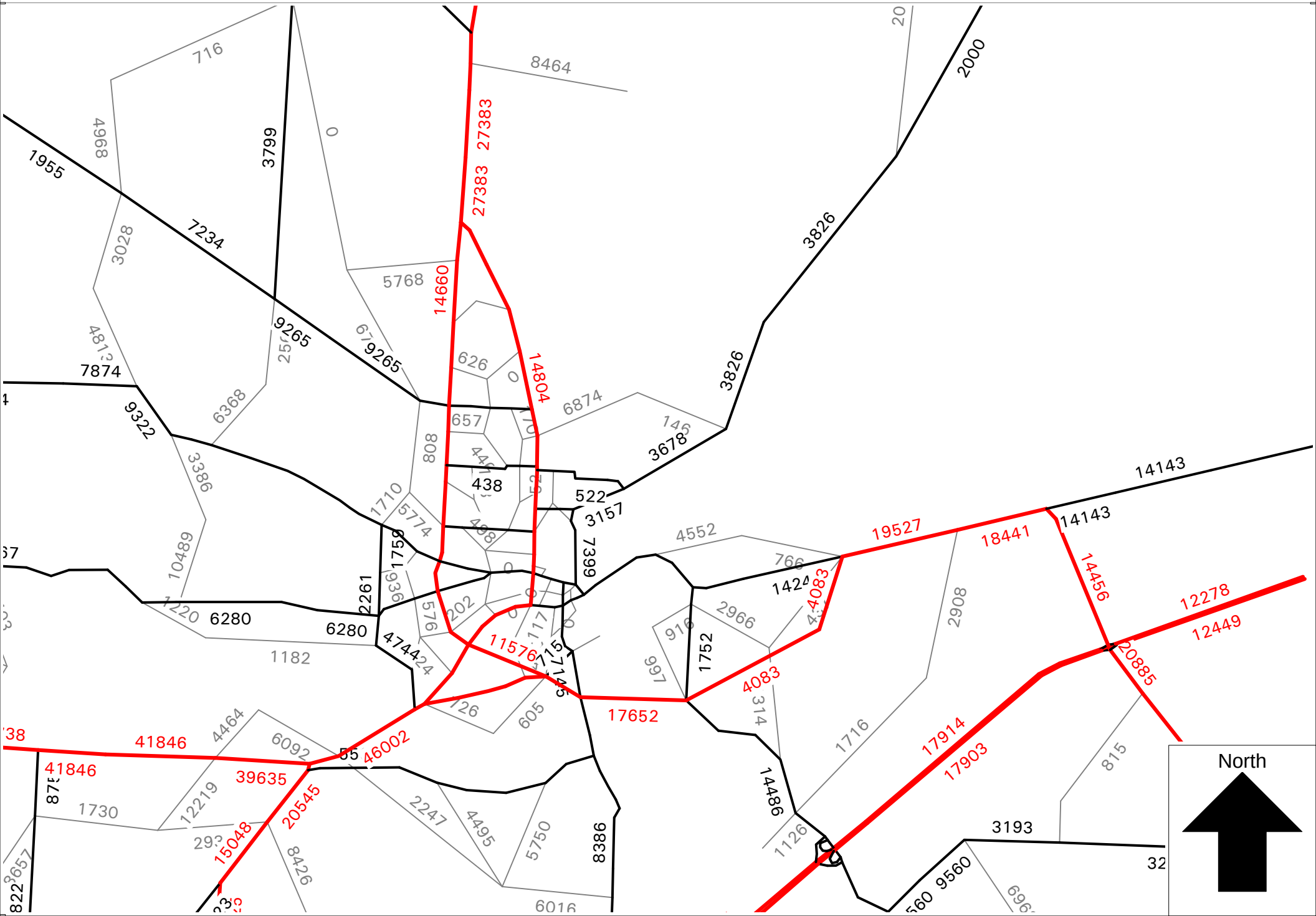
NWFRPM 2035 CF 4-LANE ALT U - SCENARIO 4AC (4-LANE DIVIDED)
AADT (2-WAY)



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